

THE ILLUSTRATED LONDON NEWS

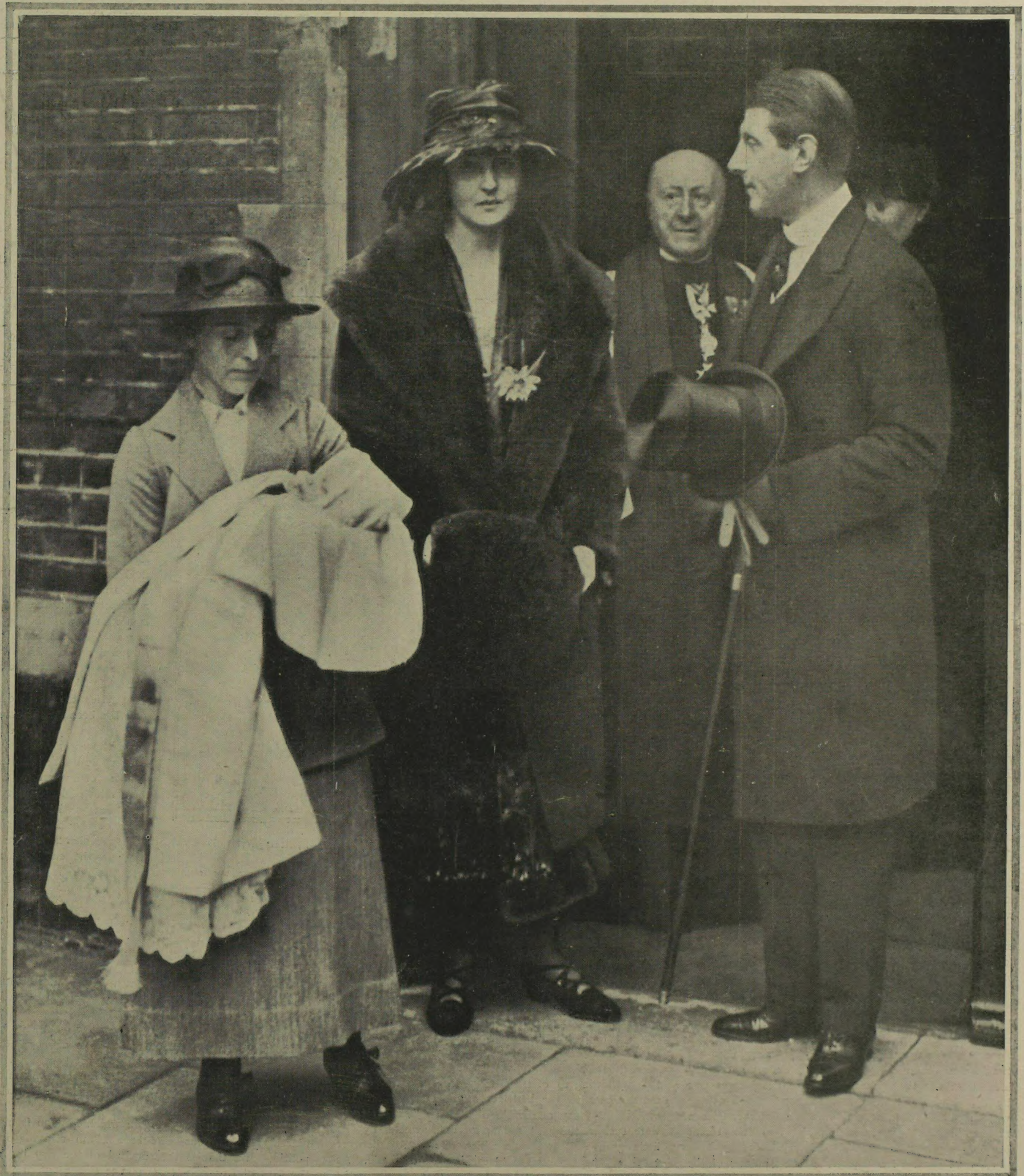
REGISTERED AS A NEWSPAPER FOR TRANSMISSION IN THE UNITED KINGDOM AND TO CANADA AND NEWFOUNDLAND BY MAGAZINE POST.

No. 4219. VOL CLVI

SATURDAY, FEBRUARY 28, 1920.

ONE SHILLING.

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AT THE CHRISTENING OF "PRINCESS PAT'S" BABY: CAPTAIN AND LADY PATRICIA RAMSAY AND THEIR SON, ALEXANDER ARTHUR ALFONSO DAVID RAMSAY.

The christening of the infant son of Captain and Lady Patricia Ramsay took place at the Chapel Royal, St. James's Palace, at noon on February 23. The baby received the names: Alexander Arthur Alfonso David. The King and Queen, the Prince of Wales, Queen Alexandra, and Princess Mary were amongst those present. The sponsors were: the Prince of Wales, Princess Mary, Princess Christian, Princess Helena Victoria, Prince

Arthur of Connaught (proxy for the King of Spain), the Marquess of Carisbrooke (proxy for the Duke of Connaught), and Commander B. Eyres-Monsell. The water used was drawn from the Jordan by the Duke of Connaught when the British troops crossed the river in their advance of 1917. During the responses to the service, the baby made his voice heard, but he was quiet during the actual christening.

PHOTOGRAPH BY L.N.A.



By HILAIRE BELLOC.

OF all the great towns of Europe London ought to have the least individuality; therefore it has the most. And I will bargain that, though modern builders are doing their very best to get rid of that individuality, the individuality will master them. It is like the struggle between the commercial spirit and lyrical verse.

I remember at the Mansion House many years ago a politician who was also a writer making a speech which vastly impressed me. The occasion was the Tercentenary of Milton, and this politician said with great emphasis and very loudly to the assembled worthies: "You can't kill it! You can't kill it! What? English poetry. You may do your best to kill it, and you do do your best to kill it, but it comes up again of itself. You cannot kill it!" And so it is with the intimate diversity of London.

I know that many people will quarrel with me for saying that "Of all the great towns of Europe London ought to have the least individuality," but I think the phrase is historically sound. London has never been deliberately ornamented. It has hardly (save round the Law Courts and in the particular case of the City) developed special "quarters." The authorities laying it out from time to time have done so in a most brutally soulless way. Much more important than all of these, London has been burnt down and had to be rebuilt in a hurry, and, one would say, all in one style. Alone of the great Roman cities of Europe London lost nearly all its antiquity in one great fire, and in particular it lost its Gothic.

Then again, the expansion of London was only one part of all that commercial expansion which gave us a greater Huddersfield and a greater Halifax and sundry other great things—and no one will pretend that these have individuality, or great diversity.

But with London it is different. And why it is so I cannot tell. But I will suggest a straightforward and commonsense explanation, which is that there is a Familiar Demon looking after London, who takes care that London shall never become unified or commonplace.

All that quarter which we call St. James's was deliberately set out. It was planned as regularly as Haussman's Paris, and you may read the whole story in that excellent little book, "The History of St. James's Square." The regular plan was no longer ago than the time when Versailles was built and almost a century later than the time when the Place des Vosges was built in Paris—yet what a difference! Look at the way in which St. James's Square has become, from a regular "piazza" (as its authors called it), the present higgledy-piggledy of styles and history.

A man can sit looking out of the windows of the London Library and spend an afternoon doing no more than remembering the best known things of the thousand things that have happened there, and all these things have affected the growth of the place. It has the largest and the smallest houses, and in the very middle of it, cheek by jowl, an old King and a new Army hut. Or again, a stone's-throw away you are coming down

a great, fairly modern street and you pass a small open doorway without a door. I have passed it many thousand times in my life without noticing it; until the other day a man took me through that little open doorway and showed me wood-work five hundred years old, in the passage of it, and then at the other end of the passage I found myself in a small square court unknown to the world and sporting a sundial.

If you want proof, by the way, of this commonsense suggestion of mine that there is a Familiar Demon looking after London, consider what happened after the Great Fire. It was a time of formalism, and there was a magnificent opportunity for rioting in exactitude. Two of the greatest men of the time—I mean two of the most active brains—Temple and Wren, each (among others) made plans for the rebuilding. These plans were on the same model as has guided the reconstruction of all Continental towns from the Renaissance

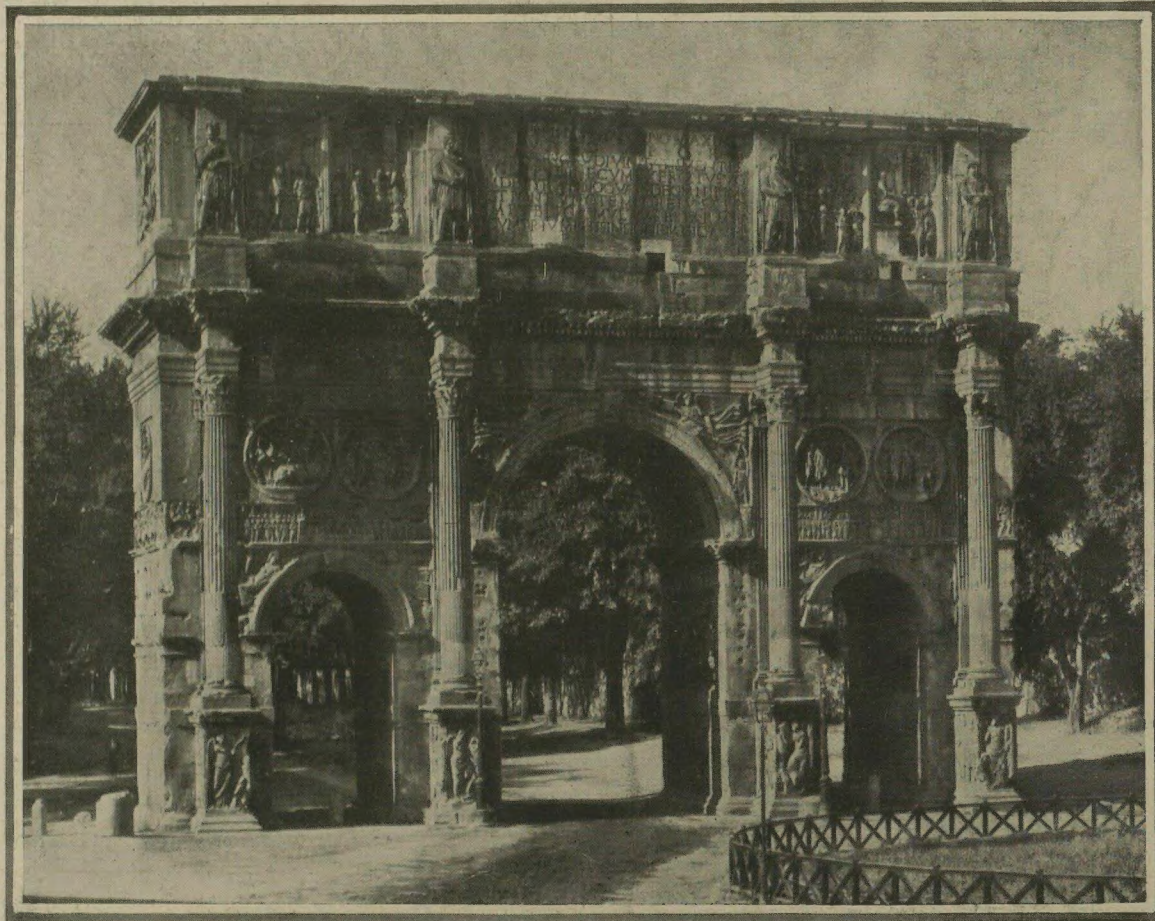
It was a happy instinct of the Londoner not to change the names of his streets. That is no excuse for Tennyson, who foamed at the mouth because foreigners changed the names of theirs. But, at any rate, such changes would never do for London. There is quite a large proportion of these names which tell even the passer-by something of the past, and those who, like myself, can pretend to no special knowledge of London, have spread before them an unending museum for inspection and discovery. It was late indeed in my life that I was told why Scotland Yard was called Scotland Yard—and I hope the explanation was the right one! I had always thought it was called Scotland Yard because it was the headquarters of the Police, on the plan of the guide-book which tells us that Oxford was so called because of its ancient University. But no. If the explanation with which I was furnished is right, Scotland Yard stands on the site of those lodgings in the Palace or the neighbourhood of Whitehall reserved

for the King of Scotland, or his emissaries, when they came to do homage for his English county.

But though London is so careful of a continuity in names, it is oddly careless of a continuity in things, or even in uses. I do not believe that in any other capital of the world that which had been the Hall of Justice for century upon century would have been disused; or that in any other great town in the world such a monument as Christ's Hospital would have been deliberately pulled down. In Paris justice has been administered on the same spot for two thousand years; the great markets of the town have been on the same spot for many hundreds; the teaching of physics and of medicine has been on the same spot in the University since the early fourteenth century at least; and the centre of worship, the high altar of Notre Dame, has been on the emplacement of the high altar of the first church, and this was on the emplacement of the original pagan temple. Rome has less physical continuity, but still a continuity greater

than that of London. On the other hand, London does not put great monuments to base uses. A palace remains a palace, even when it is cut up into lodgings. Whereas in almost every other country abroad they will charge the most venerable stones with the most extraordinary and novel duties. For instance, the splendid Hall of the Franciscans in the University of Paris is to-day a huge dull museum, into which no one ever goes, full of specimens—medical, I think—and the last remaining tower of the mediæval wall is a small and rather dirty locksmith's shop.

There is one other thing in which London is magnificently continuous—but here I am straying into politics—and that is the survival of the city proper, the City of London: to the huge discontent of those who are not moved by antiquity, but (I can assure them) to the great delight of others. There is no such other anomaly in Europe, say those who are not moved by antiquity. And the others, who are moved by antiquity, agree with them; but in a very different sense, for these last delight in anomaly.



RECENTLY THE SUBJECT OF A "FAKED" PHOTOGRAPH SHOWING IT APPARENTLY PLASTERED WITH ITALIAN LOAN PLACARDS: THE ARCH OF CONSTANTINE IN ROME.

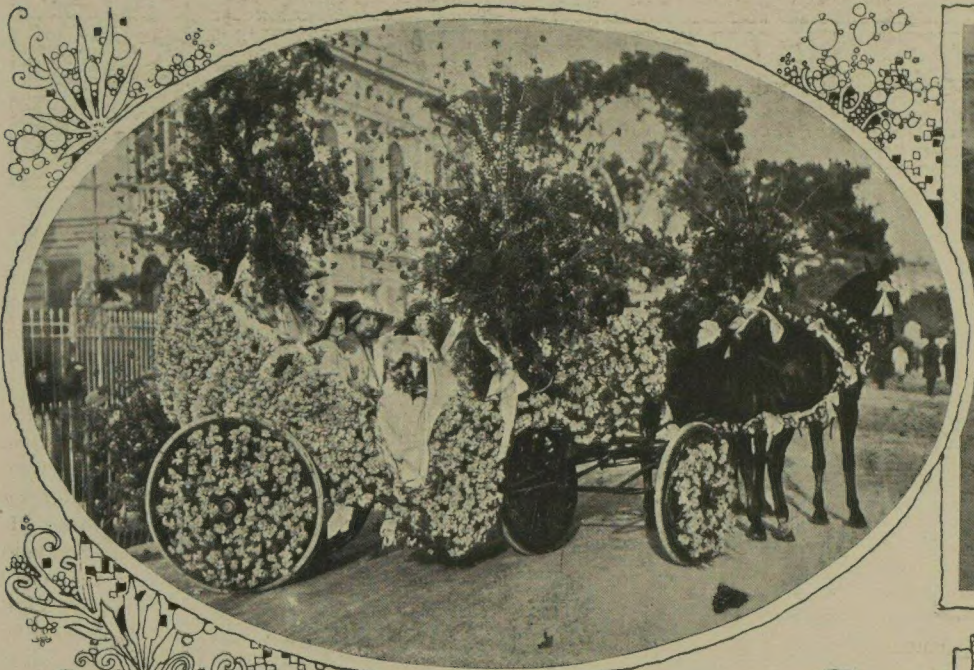
A "faked" photograph of the other side of the Arch of Constantine, showing it defaced by placards of the Italian Loan, was recently supplied to us by an agency, which obtained it from a contributor in Rome. It was reproduced in our issue of February 7, with comments on the apparent vandalism. We have since learnt that no such use was made of the arch. An article explaining the matter appears elsewhere in this number. Needless to say, we much regret that such a photograph was ever circulated.—[Photograph by Brogi.]

to our own day. They had great broad avenues, convenient streets at right angles, round and square meeting places, very broad vistas leading up to the principal monuments, and all the rest of it. Of the two, Wren's was the better, but both were on geometrical patterns, rational and final. What was actually built was the city as you see it to-day—a labyrinth.

A great part of the diversity of London comes from the swallowing up of the little villages which still give their names to the districts of which they are the centres. I fancy one could distinguish them, if there were such a thing as a map of land-owners, by the little groups of freeholds which one would discover therein: the great landlord estates lying outside. As London spread its huge waves of growth, it surrounded and swallowed up one such village after another, but it did not destroy them. You can often trace the village green, always the church, usually the High Street, sometimes the Manor House, and even when they have turned round, as it were, to face a new form of traffic, they keep their character.

THE RIVIERA ITSELF AGAIN: A BATTLE OF FLOWERS AT NICE.

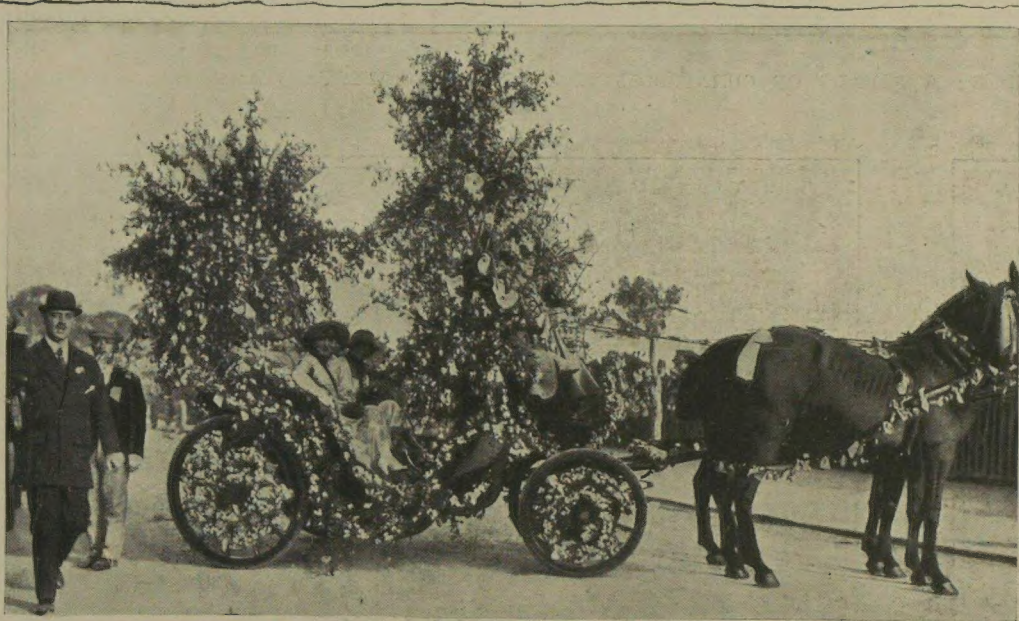
PHOTOGRAPHS BY PHOTO-ECLAIREUR.



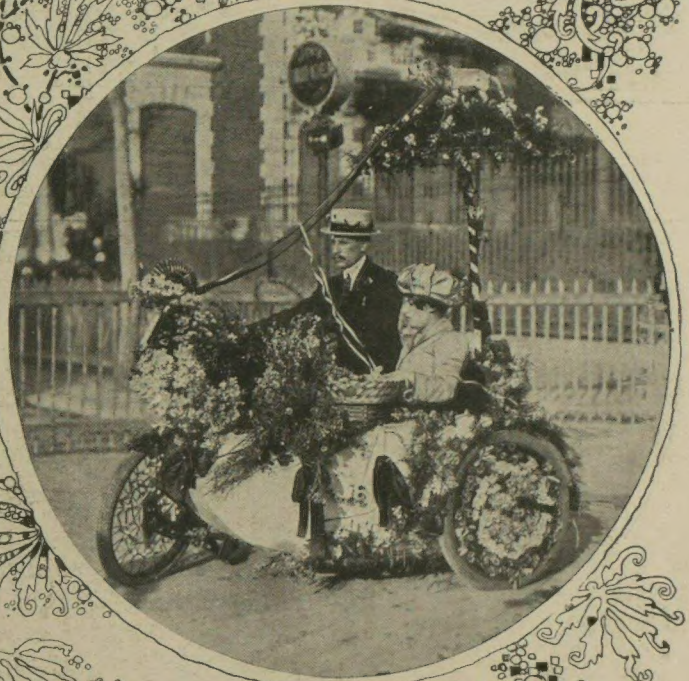
A SEA-SHELL IN PINK AND RED CARNATIONS: MRS. SELFRIDGE'S VICTORIA—A BANNER-WINNER.



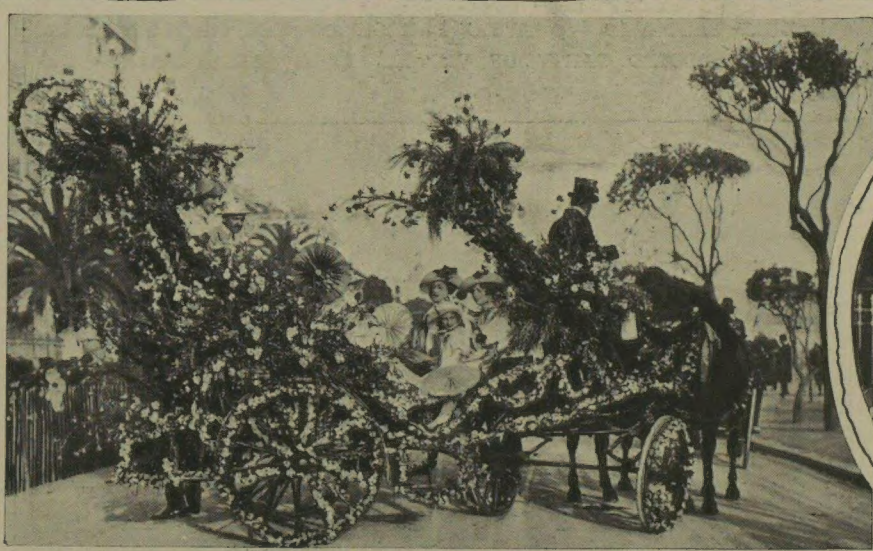
A HAPPY PARTY IN THE BATTLE OF FLOWERS AT NICE: A FLOWER-DECKED MOTOR-CAR.



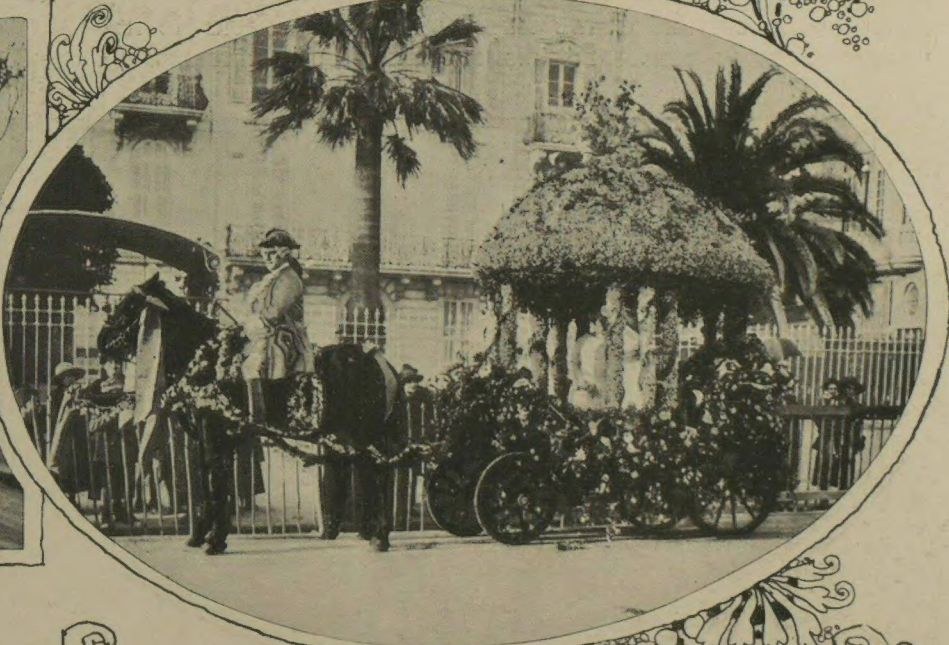
THE BATTLE OF FLOWERS AT NICE: MME. LIANÉ DEVRIES DECORATED VICTORIA.



A FAMILIAR TYPE OF VEHICLE IN AN UNFAMILIAR GUISE: A SIDE-CAR IN THE BATTLE OF FLOWERS.



MME. ROQUES IN HER DECORATED CARRIAGE: A "COMBATANT" IN THE BATTLE OF FLOWERS AT NICE.



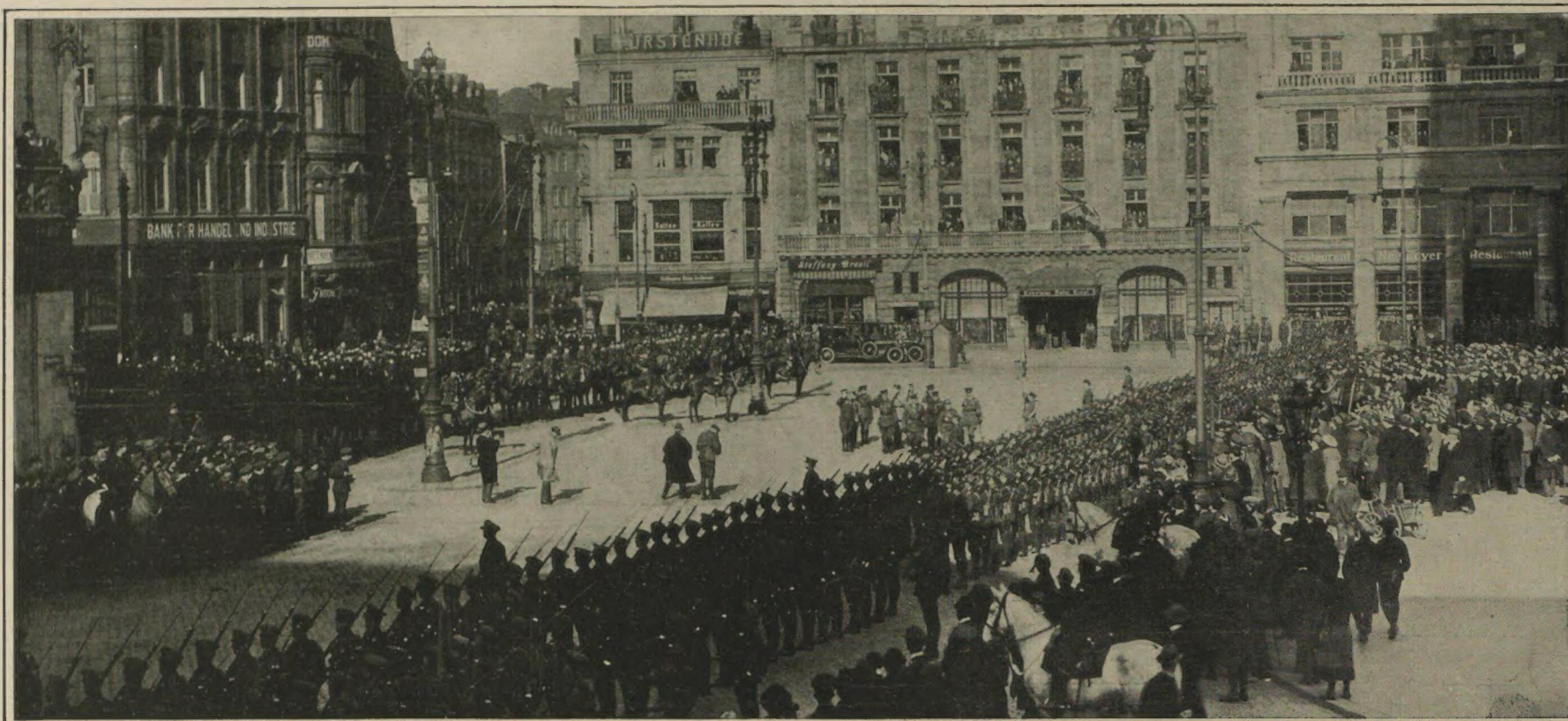
THE TEMPLE OF LOVE IN THE BATTLE OF FLOWERS: MME. LEON BAUMGARTNER'S CAR.

Those fortunate people who can go to the Riviera enjoy sunshine and flowery carnivals while we in London toil amid fog and rain and cold winds. On February 17 Nice held its second Battle of Flowers, and reports say that the festival was even more successful than the first. The Duke of Connaught and Sir Alan Johnstone dined at Les Fleurs on the evening of the flower battle. The list of banner-winners was headed by Mrs. Selfridge,

whose victoria, we read, "presented a particularly charming fantasy of pink and red carnations." Among other distinguished guests who have been at Nice recently are the Shah of Persia, the Aga Khan, the Marchioness of Headfort, and Mme. Emma Calvé, who has her winter home there. She arranged to give two or three concerts there this month, and in March she is to sing in London.

GERMANY IN THE LIGHT OF PEACE: COLOGNE; BERLIN; SCAPA FLOW.

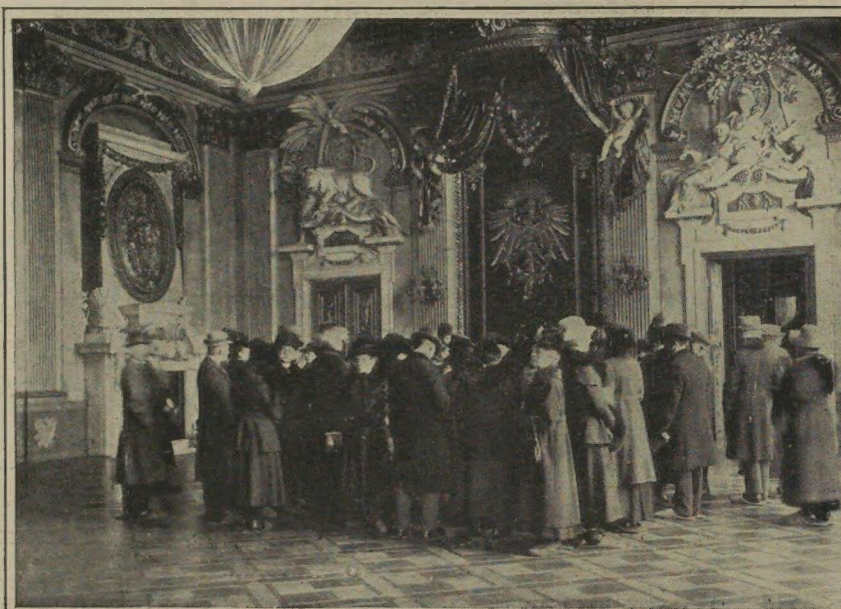
PHOTOGRAPHS BY MATTHÄUS, SENNECKE, AND PHOTOTHEK.



THE BRITISH ARMY OF OCCUPATION ON THE RHINE: A PARADE OF OUR TROOPS IN COLOGNE, ON FEBRUARY 20.



KEEPING UP A CUSTOM OF THE IMPERIAL RÉGIME: VISITORS TO A ROYAL PALACE IN BERLIN DONNING SLIPPERS BEFORE ENTERING.



ALL DULY SLIPPED, TO AVOID DAMAGE TO THE PARQUET FLOORS: A CONDUCTED PARTY OF VISITORS IN A BERLIN PALACE.



THE HOME-COMING OF THE "SCUTTLERS" FROM SCAPA FLOW: GERMAN SAILORS ON BOARD THE "LISBOA" ARRIVING AT BREMERHAVEN.

As the King pointed out in his speech at the Opening of Parliament, by the ratification of the Peace Treaty with Germany "the state of war with that country has been finally brought to an end." It will take time, perhaps, for our eyes to grow accustomed to the light of peace, which falls strangely, for example, upon some of these photographs, so reminiscent of a different atmosphere. It will be noted that, in Berlin, one at least



THE "SCUTTLER-IN-CHIEF" BACK IN GERMANY: ADMIRAL REUTER, WITH HIS FAMILY, ON BOARD THE "LISBOA" AT BREMERHAVEN

of the customs of the old Imperial régime is still maintained, that of causing visitors to royal palaces to don slippers over their boots on entering, to avoid the risk of hob-nails coming in contact with floors of polished parquet. The return to the Fatherland of the crews of the scuttled German fleet at Scapa Flow was apparently not made a scene of great rejoicing, as was that of the German troops after the Armistice.

Germany's "Peace Lord": A Republican President in Place of an Imperial Autocrat.



THE DEMOCRATIC RÉGIME IN GERMANY: THE PRESIDENT OF THE REPUBLIC, HERR EBERT, WITH HIS WIFE, WALKING IN THE PARK AT WEIMAR.

By precipitating a world-war, Germany achieved one result which she hardly expected: she turned herself from an empire into a republic, and exchanged a flamboyant autocrat,

addicted to gorgeous uniforms, for a democratic President in ordinary clothes, looking very much of the average man.—[PHOTOGRAPH BY A. FRANKL.]

Four Presidents of France: M. Deschanel and his Three Predecessors at the Hotel de Ville, Paris.



A PRESIDENTIAL QUADRUVIDE: (L. TO R.) EX-PRESIDENT LOUBET, PRESIDENT DESCHANÉL, AND EX-PRESIDENTS POINCARÉ AND FALLIÈRES (THE CENTRAL FOUR IN FRONT).

M. Deschanel entered on his seven-years' term of office as President of the French Republic on February 18, when M. Poincaré handed over to him the Presidential powers. M. Deschanel was then invested with the Grand Collar of the Legion of Honour. Later

in the afternoon the new President was received at the Hotel de Ville, where his three predecessors, M. Poincaré, M. Fallières, and M. Loubet, were among the company assembled in his honour.—[PHOTOGRAPH BY HENRI MANUEL.]

The Thyroid Gland and the Control of Animal Growth.

By JULIAN S. HUXLEY.

THE history of our knowledge of the thyroid gland is important if we want to get our bearings in the problem to-day. Scientists, being human, are liable at first to attach too little importance to what they are ignorant of, but then, as something is discovered about the unknown, to exaggerate it and ascribe everything indiscriminately to its agency. They tend to become divided into two camps—the one conservative, over-cautious; the other radical, intolerant, impatient of anything that is not altogether new.

A century ago, the thyroid was scarcely known. There is no mention of it even in the 1877 edition of Michael Foster's well-known text-book of Physiology. At one time it was even supposed to help in regulating the supply of blood to the brain! Gradually, however, it was discovered that certain human diseases were associated with abnormal conditions of the thyroid; and later, experiment, the final court of appeal, gave its decision. It is a long time ago now, reckoning in terms of the bewilderingly rapid development of recent science, that it was discovered that animals whose thyroid glands had been removed, and which normally would become diseased and die, could be kept healthy by mixing with their food a quantity of thyroid gland from animals of their own or another species. The results were speedily confirmed on human beings; and one has only to go to a public library and look in such standard works as Osler and Macrae's "System of Medicine" or Starling's "Physiology" to see what amazing transformations can be effected in certain diseases simply by feeding the patient with thyroid extract.

When the thyroid is absent or markedly deficient at birth, the child develops into a cretin. It is important to note that in such children, both mental and physical growth is interfered with. A cretin twenty years old is often no larger than a child of six, with the mental powers of a baby of two, concealed beneath a face of repulsive idiocy. After a few months' thyroid treatment, a cretinous infant, which otherwise would have been doomed to this stunted life, may change into a happy, healthy child, normal in mind and body. It should, of course, be made clear that cretinism is only one out of many causes of idiocy, and that it is only here that the thyroid is instrumental in restoring mental health.

Then there is the disease known as exophthalmic goitre, of which the root-cause seems to be an excess of thyroid activity. Here the symptoms are reversed; the patient is irritable and over-sensitive, the heart beats faster, the eyes bulge out, and the sufferer, though always hungry, continues to lose flesh. Somewhat similar symptoms appear if much thyroid extract is taken by a normal person. In certain cases of goitre removal of part of the thyroid has proved beneficial.

themselves with is to restore a man's thyroid activity to its proper or normal level. They know that the thyroid does something of importance, and that if it is abnormal, or excessive, or insufficient, disease appears. So, if there is too little, they make up the balance by supplies from without; if there is too much, they operate and remove the excess. But they have not yet tried to penetrate the real secret of the thyroid, and to apply that secret, once found, to practical ends. Other workers, however, have been deepening our knowledge and showing that substances produced by the thyroid have an effect upon the most fundamental properties of life; but we still do not know how to apply it to control the phenomena of growth and vital activity, and perhaps of sex and old age. We can, however, see the direction in which future researches must lie.

The new knowledge has come, as is usually the case, from researches in pure science, carried on without an

usually measured by the amount of oxygen consumed, or of carbonic acid given off, in a given time. One milligram—in our unpractical British terminology, about 1-30,000th part of an ounce—of pure thyroxin administered to an ordinary man weighing 150 lb. will accelerate his basal metabolism by two per cent., and so on in proportion to the amount of thyroxin given until it begins to upset his whole economy.

I have given the history at length, partly to show where we stand and how little we really know as yet, but partly to show—what the general public seems not to realise—that advance in science is never the work of an isolated individual, but of many.

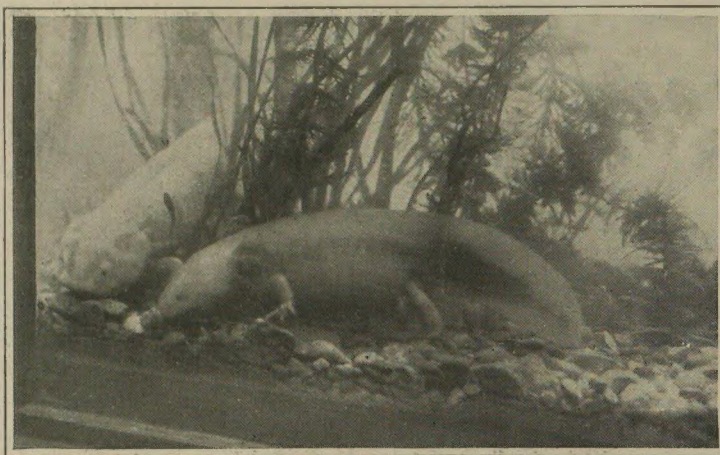
Pure science is the only domain of human activity where anything approaching Communism is practised. Scientific workers do not hold back results to sell to the highest bidder; they publish them at once, usually without any pecuniary advantage, so revealing to the world at large processes much more important to the welfare of humanity than the bulk of those which, as patents, bring in large fortunes to their inventors.

The work which has been done at Oxford is only a single link in the long chain. It consists in showing that an aquatic-amphibian, the Mexican Axolotl, which normally grows up in an undeveloped, tadpole-like form, with gills and a fin to its tail, can be turned at will, apparently at any stage of its history, into a salamander-like creature, living on land and breathing by lungs, which was at first supposed to be a totally different animal. An excellent and very readable account of the Axolotl may be found in Gadow's article on Amphibia in the "Cambridge Natural History." The provisional explanation of the Axolotl must be that, in the countries it inhabits, it is easier to pick up a good living in the water than on the land, and that accordingly the animal's thyroid has become so much reduced that it does not ordinarily change into a land creature like other

amphibia. Since, however, the waters where they live are exposed to the chance of drying up, the thyroid has been retained at a size where the slight stimulus of being forced to breathe air causes the metamorphosis to take place. What is of great theoretical interest in the case of the Axolotl is that animals may still be transformed after they have become mature and capable of reproduction—again something that cannot occur, normally, in nature.

That our explanation is probably the true one is shown by the converse experiment, which was carried out in America by Allen, of removing the thyroid gland (a ticklish operation!) from young tadpoles.

The creatures refused to change into frogs at all, but simply grew and grew, reaching double, even treble, the normal length of a tadpole, and, if we may believe the most recent results, actually in some cases produced ripe eggs while still retaining their larval form.



CONVERTIBLE BY THYROID INTO A SALAMANDER-LIKE CREATURE:
A MALE (LEFT) AND FEMALE AXOLOTL.

Mr. Julian Huxley's work at Oxford shows "that an aquatic amphibian, the Mexican Axolotl, can be turned at will into a Salamander-like creature living on land."

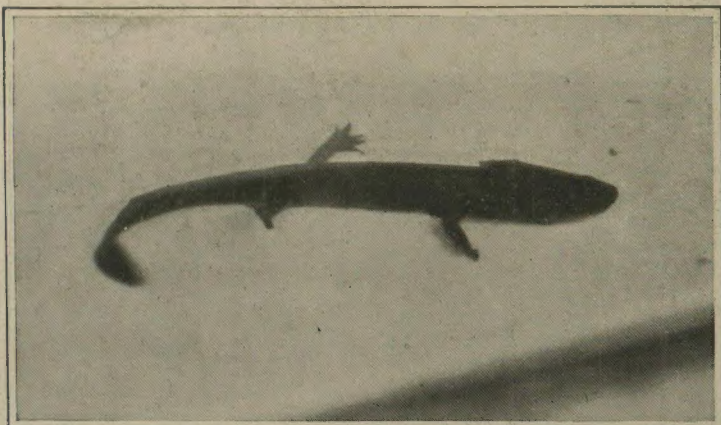
eye on the possibility of practical application. In America it has been found that even the lowest forms of life—animals consisting of but a single cell, without nerves or brain, eyes or ears, heart or stomach—may respond to thyroid treatment. One of these, *Paramecium*, which reproduces asexually, by dividing into two equal halves when it has reached a certain size, has its division-rate increased by fifty per cent. when dosed with thyroid. That is to say, if two solitary *Paramecia* are isolated in ordinary surroundings, one with, the other without, thyroid, the latter will have divided three times, to form eight new individuals, in the same time that the other takes to divide twice and form four; and by the time the ordinary one has produced 256 offspring, the stimulated one will have produced 4096.

Gudernatsch, a German, had meanwhile discovered that feeding frog-tadpoles on thyroid caused them to turn into frogs long before their proper time, and his

work was taken up and extended by Swinglee in America. Even if the tadpoles have not yet formed legs when thyroid-feeding begins, the effect of the new diet is to make them stop growing, to sprout fore and hind legs, to absorb their gills and tails, and to turn into miniature frog-lets. By this means, frogs no bigger than an ordinary fly, and therefore much smaller than any existing in nature, have been produced—one is tempted to say *manufactured*.

On the chemical side, Kendall has taken the great forward step of isolating a substance

from the thyroid which can be regarded as the essential principle of the gland so far as its effects on growth and rapidity of vital processes are concerned. This substance has been named *thyroxin*, and during the last year Kendall succeeded first in analysing it, then in manufacturing it artificially. Thyroxin is stated to have a remarkable power of accelerating metabolism, under which term biology sums up the main chemical activities of the living organism. What is called *basal metabolism* is

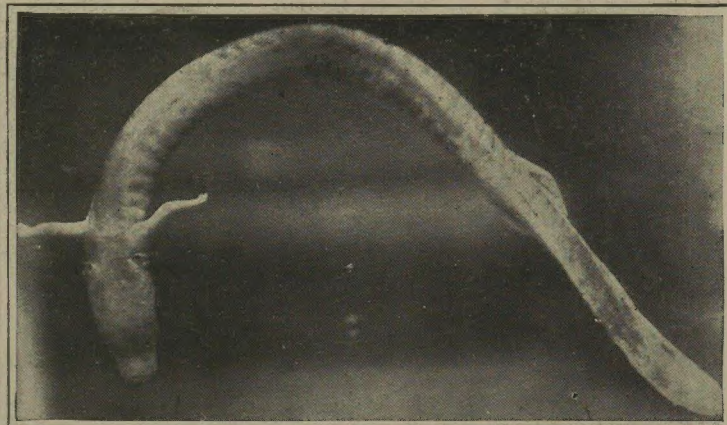


UNDERGOING CHANGE DURING TREATMENT IN SHALLOW WATER:
A YOUNG AXOLOTL.

"The Axolotl's name," says Mr. Julian Huxley, "is Mexican for 'play in the water.' Boiled, with plenty of cayenne pepper, it is a staple article of diet in Mexico City." Its European cousin, the *Proteus* (shown in the adjacent photograph), is a curious blind creature found chiefly in the caves around Fiume.

Head-lines such as "New Thyroid Cure for Idiot Children" only reveal the extraordinary popular ignorance, even among educated people, with regard to science and medicine, for the bulk of these facts have been among the commonplaces of physiology for years.

On the other hand, after this first discovery of the power of the thyroid to regulate general bodily and mental activity, there has been a curious lack of progress. Put broadly, all that doctors at present concern



POSSIBLY CONVERTIBLE, BY A DOSE OF THYROID, INTO A CREATURE THAT HAS NOT EXISTED FOR THOUSANDS OF YEARS: THE PROTEUS.

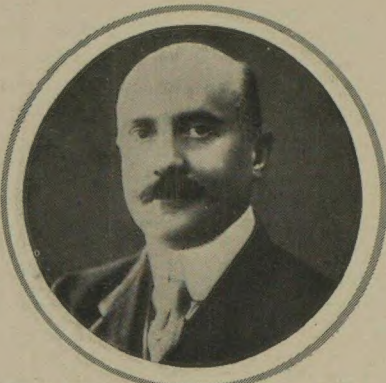
Mr. Julian Huxley writes: "Some relatives of the Axolotl, such as the European *Proteus* or *Olm*, appear to have completely lost their original adult form. If we can obtain some young specimens and dose them with thyroid, we may turn them into a creature that has not existed for thousands of years."—[Photograph by C.N.]

Enough has, I hope, been said to show that we are probably on the verge of discovering how to turn on and off this switch which controls both the rate and the form of animal growth. We are still in the dark about a great many points. The most important, perhaps, is whether the speeding-up of vital processes will cause a proportionate decrease of the natural span of life. The question of sex-determination is another apparently isolated question. Thanks mainly to the

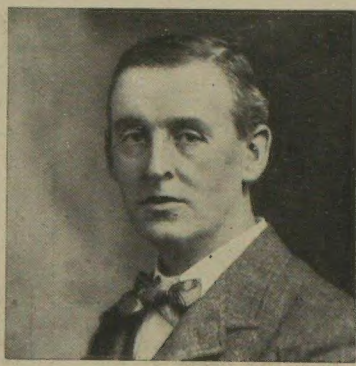
[Continued on page 354.]

PERSONALITIES OF THE WEEK: PEOPLE IN THE PUBLIC EYE.

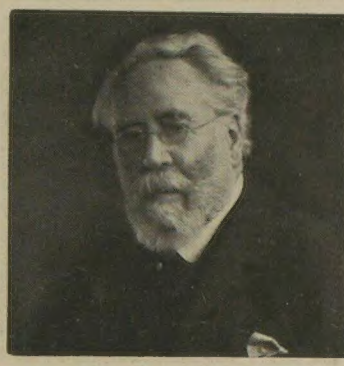
PHOTOGRAPHS BY SPORT AND GENERAL, ELLIOTT AND FRY, RUSSELL, SWAINE, MILLS, C.N., PHOTOPRESS, AND WAKFIELDS.



CHARGED WITH COMMUNICATING WITH THE ENEMY IN WAR-TIME: M. CAILLAUX, EX-PREMIER OF FRANCE NOW ON TRIAL.



"SUB ROSA," OF THE "DAILY NEWS": THE LATE MR. SPENCER LEIGH HUGHES, M.P. FOR STOCKPORT.



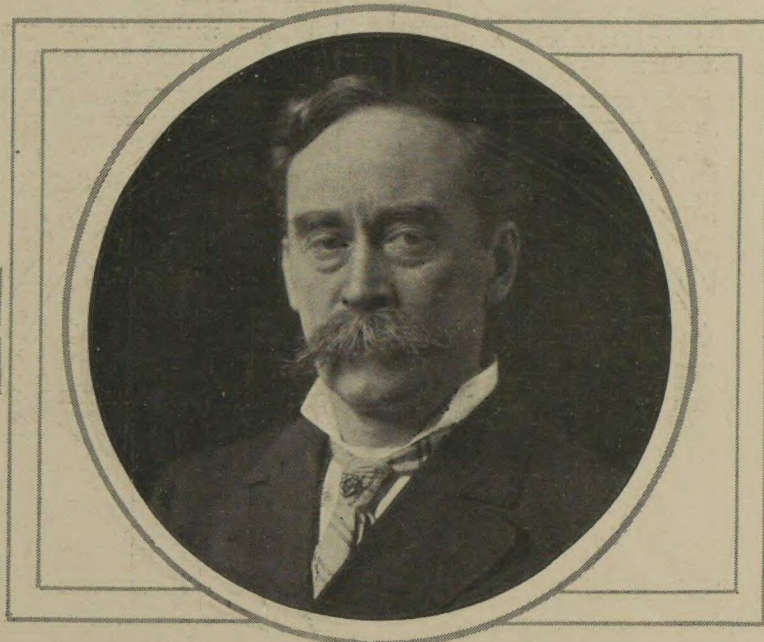
EDITOR OF THE "LIVERPOOL DAILY POST" FOR OVER FIFTY YEARS: THE LATE LORD RUSSELL.



EX-CHAIRMAN OF THE CENTRAL CONTROL BOARD (LIQUOR TRAFFIC): LORD D'ABERNON, WHO HAS RESIGNED.



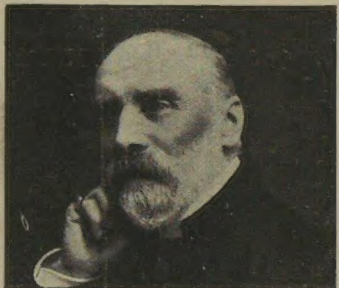
A NEW PEER: BARON DAWSON, OF PENN (SIR BERTRAND DAWSON), PHYSICIAN-IN-ORDINARY TO THE KING.



THE DISCOVERER OF THE NORTH POLE, ON APRIL 6, 1909: THE LATE REAR-ADMIRAL ROBERT EDWIN PEARY, THE FAMOUS AMERICAN EXPLORER, WHO DIED AT WASHINGTON ON FEBRUARY 19.



YOUNGER BROTHER OF THE MURDERED KING CARLOS OF PORTUGAL: THE LATE DUKE OF OPORTO.



APPOINTED A RESIDENTIARY CANON OF EXETER: THE REV. A. H. SIMMS, VICAR OF ST. LUKE'S, TORQUAY.



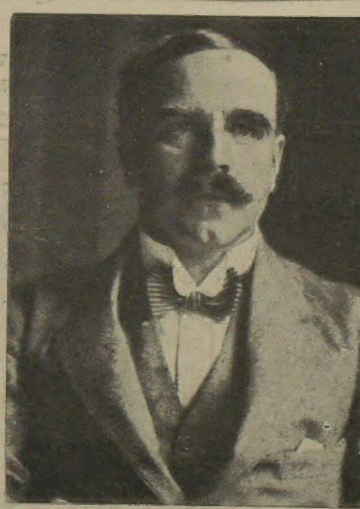
NEW DEPUTY GRAND MASTER OF GRAND LODGE OF MARK MASTER MASONS: SIR RICHARD VASSAR-SMITH.



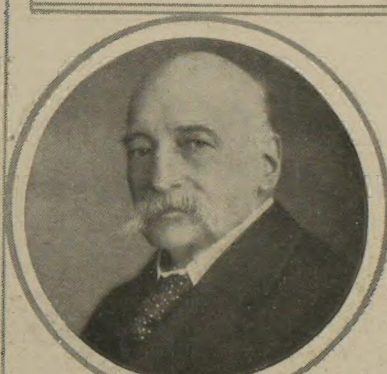
APPOINTED PARLIAMENTARY PRIVATE SECRETARY TO THE PRIME MINISTER: SIR PHILIP SASSOON.



MAKING REMARKABLE BIOLOGICAL EXPERIMENTS WITH THE THYROID GLAND: MR. JULIAN S. HUXLEY.



THE VICTOR IN THE WREKIN BY-ELECTION: MR. CHARLES PALMER; (INDEPENDENT) — A NEW M.P.



A WELL-KNOWN LITTÉRATEUR: THE LATE MR. ERNEST HARTLEY COLERIDGE, GRANDSON OF THE POET

The trial of M. Caillaux before the High Court of the French Senate began in Paris on February 20.—The late Mr. Spencer Leigh Hughes entered Parliament as Member for Stockport in 1910.—The late Lord Russell had been Editor of the "Liverpool Daily Post" since 1869.—Lord D'Abernon considers that a new authority for liquor-control should be appointed.—Sir Bertrand Dawson has taken the title of Baron Dawson, of Penn (Bucks), on being created a Peer.—The late Admiral Peary, the famous explorer, was born at Cresson, Pennsylvania, in 1856. He made his first Arctic expedition, to Greenland, in 1886.—The late Prince Alfonso of Braganza, Duke of Oporto, was an

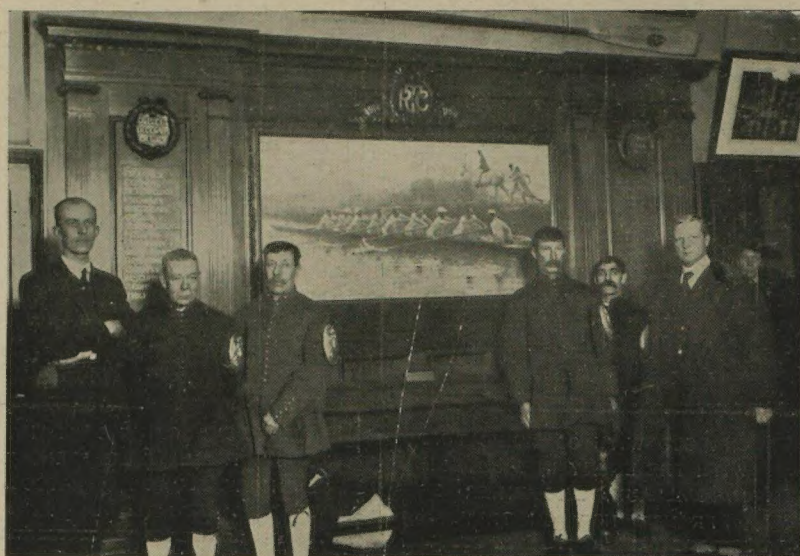
uncle of ex-King Manoel.—The Rev. A. H. Simms succeeds the late Canon Pryke as Canon of Exeter.—Sir Richard Vassar-Smith succeeds Mr. R. L. Loveland, K.C., in his Masonic post. The Duke of Connaught is Grand Master of Mark Master Masons.—Sir Philip Sassoon has been made a Junior Lord of the Treasury. During the war he was Private Secretary to Earl Haig at G.H.Q.—Mr. Julian Huxley (whose article on the thyroid gland appears on another page) is a grandson of Professor Huxley.—Mr. Charles Palmer was formerly on the staff of the "Globe."—The late Mr. Ernest Hartley Coleridge edited his famous grandfather's letters and notebooks.

SPORT AND PATRIOTISM: OARSMEN HEROES; THE KING AT A CUP TIE.

PHOTOGRAPHS BY C.N., PHOTOPRESS, AND L.N.A.



A TANK JOY-RIDE IN THE KURSAAL GROUNDS AT SOUTHEND: A NEW SENSATION FOR HOLIDAY-MAKERS.



THE THAMES ROWING CLUB'S ROLL OF HONOUR: THE CLUB'S WAR MEMORIAL UNVEILED BY VISCOUNT ELVEDEN (RIGHT).



THE WATERLOO CUP: "FIGHTING FORCE" (WINNER) AND "HONEYMAN" (RUNNER-UP).



THE WINNER OF THE WATERLOO CUP: "FIGHTING FORCE" BEING GROOMED AFTER HIS VICTORY.



OWNED BY MR. S. W. BEER: "FIGHTING FORCE."



THE KING AT A CUP-TIE FOOTBALL MATCH: HIS MAJESTY TALKING TO WOUNDED SOLDIERS AMONG THE SPECTATORS AT STAMFORD BRIDGE.



A ROYAL HAND-SHAKE BEFORE KICKING OFF: THE KING WITH THE TEAMS PLAYING IN THE CHELSEA V. LEICESTER CITY MATCH.

A new sensation for holiday-makers at Southend has been provided by a small syndicate of ex-Tank Corps officers, who have acquired two Tanks for the purpose of giving joy-rides with realistic obstacles.—A memorial to those members of the Thames Rowing Club who fell in the war was recently unveiled by Viscount Elveden (known as the Hon. Rupert Guinness until his father, Lord Iveagh, was made an Earl). On the left in the photograph is the Rev. S. Swann. Thames watermen are also present.—The final of

the Waterloo Cup, the chief coursing event, was run at Altcar on February 20. It was won by Mr. S. W. Beer's "Fighting Force," a second season greyhound. The runner-up was Mr. M. L. Hearn's "Honeyman," an Irish dog.—The King witnessed the football match between Chelsea and Leicester City at Stamford Bridge on February 21. Chelsea won. Before the game began his Majesty shook hands with the teams. He had a great reception from the crowd of 40,000 spectators.

THE CAMERA AS "OLD MASTER:" A DUTCH INTERIOR.

PHOTOGRAPH BY RICHARD POLAK.



"THE LITTLE BOAT"; BY RICHARD POLAK—NOW ON VIEW AT THE CAMERA CLUB.

Modern photography is well-nigh as unbounded in its possibilities as the Arts of Painting and Sculpture. Our illustration—a proof of this—is a reproduction of one of the plates in "Photograms of the Year, 1919," the notable annual review of the world's achievements in photographic art, which is edited by Mr. F. J. Mortimer. It is an excellent example of the style of Mr. Richard Polak, a Dutch photographer who

works on the lines of the Old Masters, and has succeeded in capturing the essence of the Dutch school in his camera study "The Little Boat." The beautiful originals of the plates in "Photograms" are now being exhibited at the Camera Club, John Street, Adelphi, and form an exhibition well worth attending, as the general public is not, perhaps, aware of the artistic achievements of the camera of to-day.

The World of Sound: V.—“Sounds of the Sea.”

By PROFESSOR W. H. BRAGG, C.B.E., D.Sc., F.R.S.

THE depths of the sea are very silent, in great contrast to the noisiness of the land. The winds blow continually over the obstructions of the earth's surface, and are fretted into sound as we have seen: the ears of land animals are adapted to the

These were filled with fluid, and when the fish turned in any direction the liquid in one or more of the canals tended to bank one way or the other, which effect was perceived and noted. We still have these canals ourselves: when we spin round too fast we overstrain them and feel “giddy.” The development of powers of detecting changes of pressure due to outside agencies went on at the same time. When in the course of ages certain fish came to lead a double existence, and as “amphibia” spent their time partly in the water and partly on the land, then the ear of the fish must have already been sensitive enough to respond to the vibrations of the air, though they

But perhaps the most wonderful of all the senses of the ear is that of quality. How does the ear distinguish one sound from another, one person's voice from another, one word from another, and the different shades of accent and meaning that can be put into the saying of that word?

Let us begin by a very simple illustration. I pluck the monochord at the middle of the string and get a certain note. I pluck it at one-third of its length from one end; the pitch of the note is the same, but *there is a difference in the quality*. And again, if I pluck at different points, the pitch of the note seems to be always the same, and yet the quality changes with every new position. For example, it is richer or jangles more when the plucking is near the end of the string. The fact is that the string can not only vibrate in different modes (Fig. 5), and therefore give off different notes, but can vibrate in several different modes at the same time. Just so the sea can not only carry waves of different wave-lengths, swells, waves, and ripples, but can carry them all at once. The sound of the string is not a simple note, but a complex; and the quality depends on the different proportions of the ingredients. These proportions, again, depend on the point of plucking, and therefore the quality also. The octave of the fundamental note is the one that has a node at the centre. If I pluck at the centre I do not call into existence a note which would have the centre of the string kept at rest. By experiment we find that if I pluck the string at A, Fig. 6, and then gently but

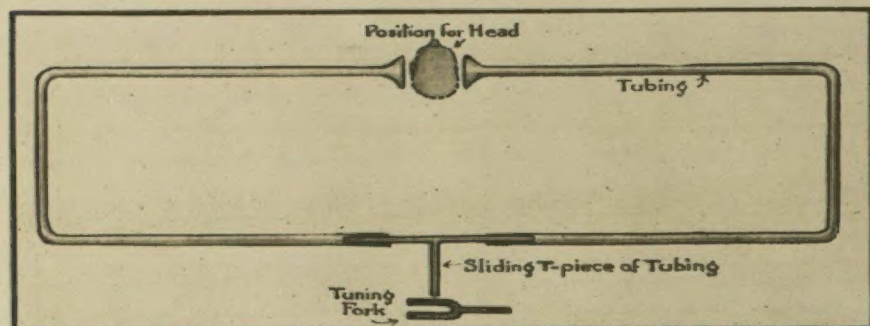


FIG. 4.—TO ILLUSTRATE THE BINAURAL EFFECT IN HEARING: A TESTING APPARATUS. The tubing ($\frac{1}{2}$ -inch in diameter) is 18 ft. by 3 or 4 ft.; i.e., about 9 ft. each side of head. The T-piece (about $\frac{1}{4}$ -inch in diameter) has a total slide of about 2 ft.

listening for sounds and to their interpretation, as well as to the recognition of the signals that the animals make to each other. But the movements of the deep sea are far slower than those of the air, and do not often lead to the production of noise. It is only in shallow water where tides run over rough sea-bottoms, or where the waves break on the shore, that there is any perceptible mass of sound. Moreover, the creatures that live in the sea move noiselessly. They swim in a medium that floats them; they are not obliged to strike the ground with their feet like land animals, or to beat the air with quickly moving wings like birds. If they and their kind make no sound themselves and have rarely any to listen to, it is not surprising to find that their organs of hearing are far less developed than those of animals that live in the air. They are not adapted to the analysis of vibrations; but they detect comparatively slower changes of pressure.

Those who study the development of animal life upon the earth (I am greatly indebted to Professor Elliot Smith in what follows) tell us that, to begin with, fishes seem to have made use of two small depressions

had been developed to record the vibrations of the sea; otherwise the ears would have “atrophied.” Finding a new and most important use for the ear, animals that lived on land developed a new structure, the cochlea (Fig. 3), which is to-day a highly important and sensitive portion of the mammalian ear. An animal that must rely greatly on its sense of hearing—for example, the crocodile, which cannot see far because it is so close to the ground—has an intricate cochlea.

It does not follow, of course, that a fish cannot detect pulses in the water at all; a shock, for example, travels well through water, and must go through a fish that swims in the water. When we throw a stone into the brook and the trout scatter, they must feel the shock of the stone striking the water, though we may doubt whether they are sensitive to the hollow sound that comes from the water cavity left by the stone.

The human ear is a marvellous instrument. Let us consider for a moment what it can do.

In the first place, it can hear the whistle of a locomotive miles away when the evening is still; and yet can stand a few yards from the same whistle and not be ruined by the immensely greater volume of sound. Instrument-makers know how hard it is to make an instrument with a range a hundredth part as wide as this.

In the second place, the ear has the “pitch” sense, and can tell minute differences in the pitch of two notes sounded close together.

Again, the ears working together possess the power of indicating the direction from which a sound comes. It is curious that we generally believe that we hear a sound “in the right ear” or “in the left ear”; whereas there is very little difference in the intensity of the sound in the two ears, unless the sound is of high pitch. Our ears are able to tell which gets the sound first, so to speak. They seem to be particularly alive to the difference in the time of arrival of any marked peculiarities in the sound waves; it is not quite so clear that they can work so well with a steady single note. We help our ears by turning our head into different positions. There are people—the late Francis Galton was an example—who have great difficulty in determining the direction from which a sound comes, because one ear has lost its power of hearing. A method of testing this effect is illustrated in the figure (Fig. 4).

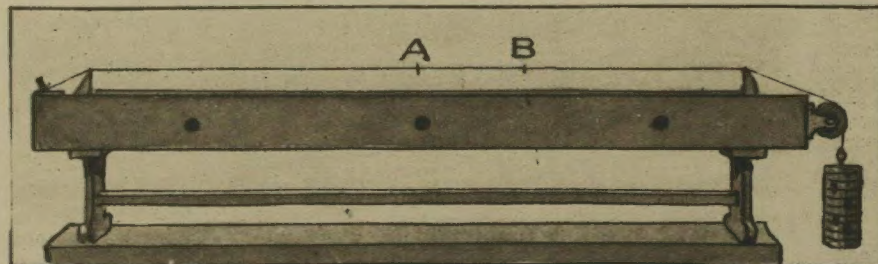


FIG. 6.—ILLUSTRATING THE DIFFERENCE OF QUALITY IN SOUND: A MONOCHORD SHOWN IN DIAGRAM.

quickly touch at A so as to drown the overpowering fundamental note, there is no sound left; the string is dead. But if I pluck at B, and then touch at A, the octave is very clearly heard. It was there all the time, even before I touched at A, but the unpractised ear does not hear it until the fundamental note is killed. When, therefore, I pluck at B, the full sound contains not only the fundamental, but also the octave—and, as a matter of fact, many others as well, which we should find if we looked for them. The converse is true. If I pluck at A and touch at B, for the purpose of destroying the fundamental, without destroying the note which has a node at B, and is a fifth higher than the octave, I find that this note is quite strong, and must be an important constituent of the full sound made when the string is plucked at A. The quality differs, therefore, according to whether I pluck at A or B.

Almost everything we use to produce sound is capable of giving off many notes, and many simultaneously. Every instrument emits a mixture of pure notes, and therefore has a quality of its own, and the quality depends also on the circumstances of the exciting of the sound.

A very beautiful illustration of the variety of notes that can be given by one instrument is found in the vibrations of metal plates (Fig. 7). By drawing the bow across the edge of the square plate shown in the figure we can get an immense number of different notes, which change as we alter the place of bowing or touch the plate at different points with the fingers. The plate buckles up and down in segments as it vibrates, the segments being separated from one another by lines

(Continued on page 348.)

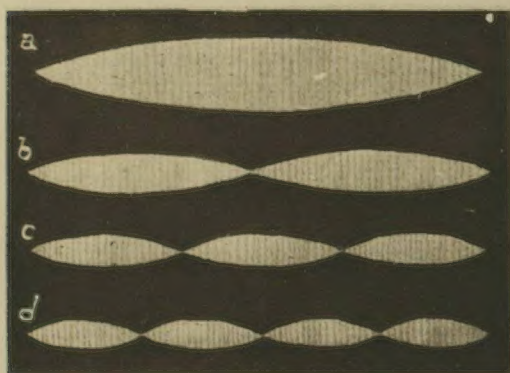


FIG. 5.—POSSIBLE MODES OF VIBRATIONS OF A STRING.

on the head. These were protected by their position, and were more sensitive than the rest of the body to pressure from without. Although a fish may not in its movements produce the vibrations we call sound, yet it cannot move without moving the water; and whenever water is moving the pressure varies with the amount of motion. The sensitive depressions in the fish's head might detect changes of pressure due to the movement of the fish itself, to the movement of other fishes, and to reflections from neighbouring rocks or other obstructions. The rudimentary organs developed in two different directions; the value of knowing its own movement led to the development in the fish's primitive ear of three semicircular canals (Fig. 2).

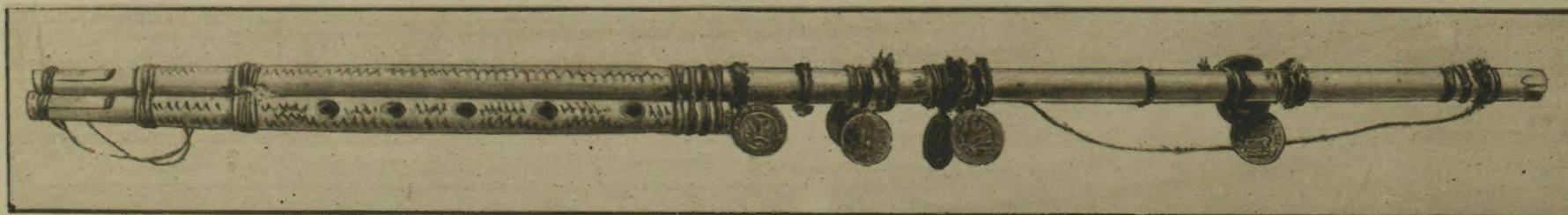


FIG. 8.—A REED INSTRUMENT: A PRIMITIVE CLARINET.

THE WORLD OF SOUND: "SOUNDS OF THE SEA"—EXPERIMENTS.

DRAWN BY W. B. ROBINSON FROM MATERIAL SUPPLIED BY PROFESSOR W. H. BRAGG, C.B.E., D.Sc., F.R.S., IN ILLUSTRATION OF HIS RECENT LECTURES



V.—SOUNDS OF THE SEA: PROFESSOR BRAGG'S EXPERIMENTS IN HIS FIFTH LECTURE AT THE ROYAL INSTITUTION.

Professor Bragg's article on the opposite page continues the series of abstracts, which he has written for this paper, of his popular lectures at the Royal Institution on Sound in its various phases. In previous issues he has dealt successively with the subjects—"What is Sound?" "Sound and Music," "Sounds of the Town," and "Sounds of the Country." We now come to the fifth subject, "Sounds of the Sea," and the experiments

which the lecturer used to demonstrate his points are illustrated in the diagrams above and on the opposite page. As previously mentioned, readers who are interested in these matters will shortly be able to study the whole series of lectures in full, in a volume which Professor Bragg has in preparation. It is to be published by Messrs. George Bell and Sons.—[Drawing Copyrighted in the United States and Canada.]



THE WORLD OF FLIGHT

THE PROOF OF THE PUDDING.

By C. G. GREY,
Editor of "The Aeroplane."

THOUGH on the surface it might appear that there is little doing in civil aviation at the moment, those who are in the inside of affairs are more than satisfied with the way things are shaping towards genuine commercial activity in the Aircraft Industry. So satisfactory, indeed, are the indications that the manager of one of the most successful war-aeroplane manufacturing firms asserted the other day that he was

come from all sorts of out-of-the-way places, one sees that the public interest and belief in aviation is spread over the whole world, and is growing steadily. And perhaps one of the most amusing things about the present state of affairs is the way in which both our Allies and our former enemies have helped us.

In Scandinavia, for example, the Germans have been making terrific efforts to get business, and have practically been giving machines away. Thanks to a combination of bad machines and bad pilots and bad petrol, they have failed to make good their promises. The wily "Scandiwegian" has argued that what he gets for nothing is worth just what he pays for it, and so Scandinavia looks like being a good market for British aeroplanes at reasonable prices. At any rate, that indefatigable sportsman Lieutenant-Colonel G. L. P. Henderson flew off to Stockholm only a few weeks ago on a Fairey seaplane, accompanied by two other pilots on similar machines. And now the good Swedes are mightily impressed, though they acquired a 'high respect for British aeroplanes months ago, when Major Johnston and Captain Saunders started touring Sweden on their Avros and kept all their engagements, while the German aviators failed.

Very similarly, in South America the French and Italian official missions arrived, gave wonderful exhibitions of fancy flying, enthused the populace, had a good many crashes, killed a few of themselves, and then went home. Meantime, mere commercial British pilots arrived, flew quite steadily, showed that an aeroplane is a vehicle and not an acrobatic apparatus, and convinced the people that purely as a means of locomotion British aeroplanes are the best and safest. Much the same thing is happening in other parts of the world, and even our competitors

the best. Which accounts for our getting the business now that it is beginning to develop.

The quietly growing influence of civil aviation has been demonstrated recently in another way. When the various London-Paris and London-Brussels services were first begun the passengers were almost entirely "joy-riders" of a somewhat superior kind—people who paid their £15 15s. to go to Paris by air for the sake of saying they had done it, or people who went as an advertisement for their businesses. And the parcels carried were generally sent for a similarly inadequate reason. Now, it seems, the class of business is changing. The Handley-Page people, for instance, state that they have lately been carrying a large number of commercial travellers who find it imperative during the present boom in trade to get to France quickly with samples of British goods, or to go to France to secure samples of French manufactures before their competitors can get hold of the market. This is precisely the kind of business in which aerial transport scores most heavily.

The firms whose travellers are thus stealing a march on their competitors naturally do not advertise the fact, and so the public in general hears little or nothing about it. But the facts creep round from individual to individual, and so one finds more and more firms using air transport, and ere long we shall find big firms owning aeroplanes for rapid transit. The actual pioneers in this direction are Instone and Co., the big coal dealers and shipowners, who bought an Airco machine last summer for private use between London and Paris. The other day, one wrote and asked the firm whether they had anything to report about the adventures of their machine. They replied that there was really nothing to report. The machine was used regularly to convey their directors or departmental managers between their Paris house and their London house, and it did its work quite satisfactorily. At the moment it was being altered so as to give it more passenger and cargo space. That, one believes, is the best testimonial ever given to commercial aviation. Here is an experienced business firm using an aeroplane regularly, and it finds it no more exciting than using a motor-car. And it is altering the machine to make it more useful still. What better proof can one ask?



LEAPING INTO SPACE: AN OBSERVER, WITH PARACHUTE ATTACHED, JUMPING OUT OF AN AMERICAN NAVAL BALLOON.

This is the most thrilling moment in the life of American Naval Dirigible observers: all of whom have to undergo the experience. The parachute unfolds within 100 ft. The photograph was taken at the Pensacola Naval Training Station.

Photograph by Topical.

certain that by the autumn of this year his firm's aeroplane department would be working overtime. Naturally, this does not mean that the whole of the firm's huge works—which were entirely devoted to aeroplanes during the war—will again be building aeroplanes; but it does mean that there will be an output from that one firm which will be bigger than the whole output of aeroplanes in this country before the war. Be it noted that the manufacturer whom one has quoted was not speaking in a spirit of enthusiastic optimism. He was reckoning entirely by orders actually in hand, a knowledge of what further orders would be produced by those sample orders when executed, and by a knowledge of the particular market for which he was catering.

His opinion was borne out by another manufacturer who is dealing with an entirely different market in another part of the world. As a rule, so far from being an optimist, he is cheerfully pessimistic, and his general outlook is "Blessed is he who expecteth nothing, for he shall not be disappointed." Consequently, he is rather surprised at finding himself compelled to build aeroplanes because people want them. He stated frankly that he did not expect to be asked to build aeroplanes—other than a few experimental war machines—for at least another two years, and now he finds his little experimental aeroplane department growing, and encroaching on what he calls his "bread-and-butter" business in the rest of his factory. Which is rather a pleasing disappointment.

Of course, all these orders are for machines to go abroad. Nobody is ordering new aeroplanes as yet for use in this country, except a few new type fighting machines and seaplanes for the Royal Air Force. But when one goes into the factories it is quite surprising how many machines and how many new types are being built. And perhaps the most satisfactory feature is that they are being ordered in ones and twos and threes. If some rich syndicate in South Africa, for example, ordered a big batch of machines, one might think that it was the result of some wild outbreak of local enthusiasm; but when one finds that the orders

are beginning to be convinced that our aeroplanes are better than their own.

Moreover, they attribute our Air Laws to our deeply ingrained commercial acumen. If there is one thing that annoys most of our aeroplane manufacturers, it is the Air Ministry's insistence on inspection of machines before using, and while in use, and on the issue of air-worthiness certificates. Yet, at the Paris Show, a very able Frenchman expressed his firm belief that this was all part of our innate wiliness. Said he: "You are the only people who insist on these certificates. All the world knows that every British aeroplane must be certified airworthy and must be inspected constantly by certified officials. So all the world comes to believe that it is safer to travel in a British aeroplane than in any other. And so you can charge higher prices, and, in fact, can afford to make better aeroplanes. It is just like your mercantile marine laws. You impose strict regulations, you insist on your ships being seaworthy, you inspect them constantly, and so you capture the carrying trade of the world by sea. And in the same way you will capture the carrying trade of the world by air. Ah, you are very clever, you English!" It is, one believes, an entirely undeserved compliment; but, whether we are very clever or merely very simple-minded, the effect seems to be the same. We are certainly getting the reputation of building the best aeroplanes, and we certainly do build



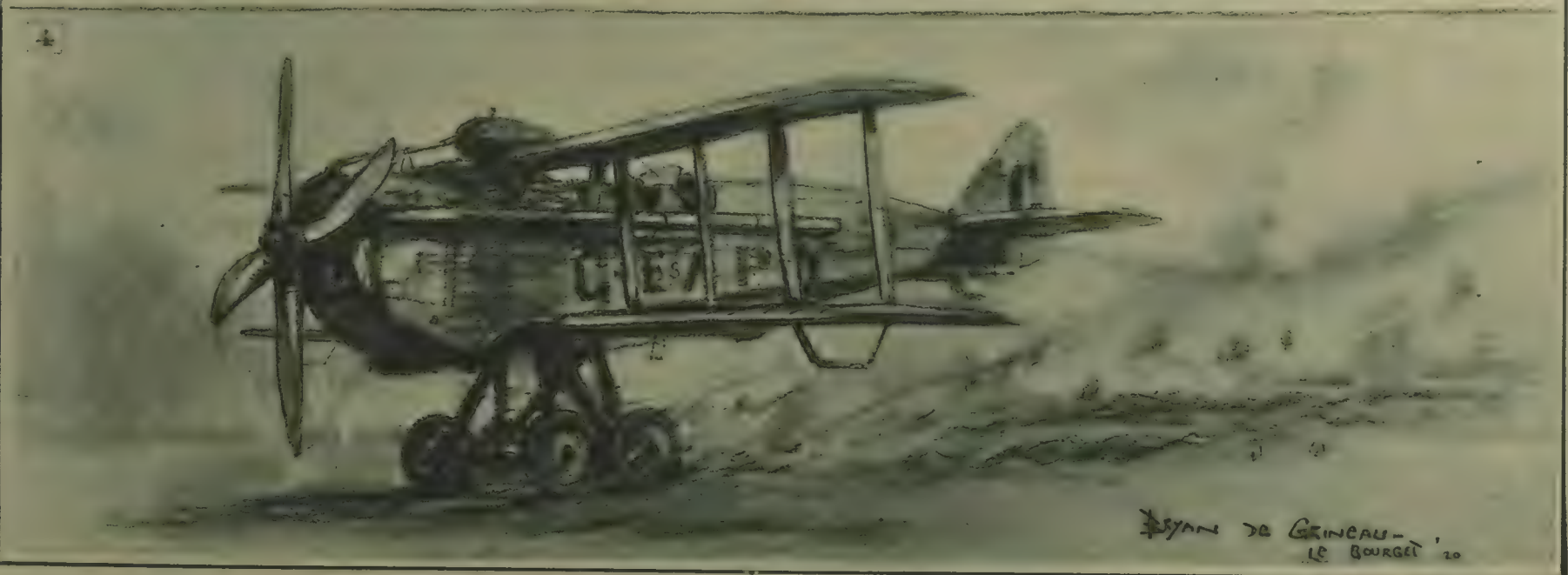
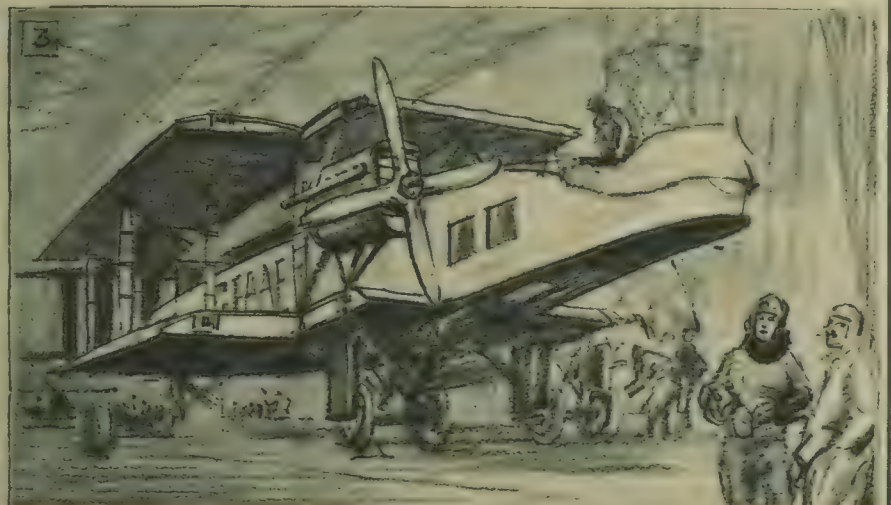
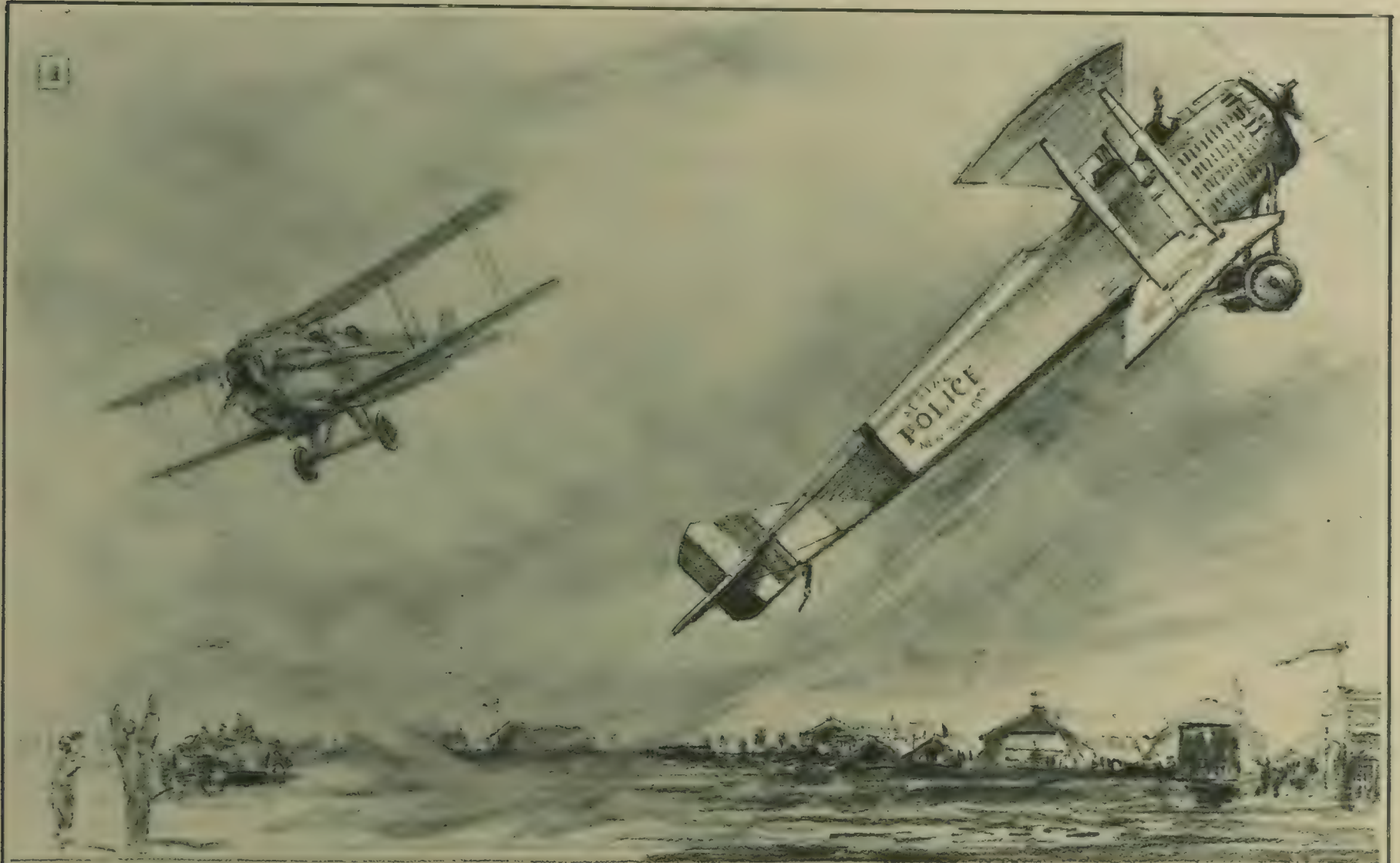
A NEW ALTITUDE RECORD: LIEUT. CASALE, THE FRENCH AIRMAN, WHO REACHED 23,725 FT. (NEARLY 4½ MILES) WITH TWO PASSENGERS, FROM VILLACOUBLAY.

The height attained constituted a new record for a flight with passengers.

Photograph by Rol; supplied by C.N.

THE PARIS AIR PORT FOR ENGLAND, AMERICA, AND ELSEWHERE.

DRAWN BY BRYAN DE GRINEAU.



1. INWARD FROM ENGLAND, OUTWARD FOR AMERICA: (LEFT) THE DAILY AIRCO CROSS-CHANNEL MAIL ARRIVING; (RIGHT) MAJOR POLLOCK (O.C., NEW YORK POLICE) LEAVING IN HIS SALMSON SCOUT FOR BORDEAUX, EN ROUTE TO THE U.S.A.
3. WITH FOLDED WINGS, AND THUS SAVING IN METREAGE DUES: A BIG PASSENGER-CARRYING HANDLEY-PAGE WAITING FOR A FOG TO CLEAR IN THE CHANNEL.

"At Le Bourget," writes our artist, "affairs are conducted just like a great maritime port, with lighthouses, weather signals, Customs, Harbour Master, harbour dues and tolls, pilots, and so on. Machines and mails are to be seen arriving and departing to and from all quarters of the world." The first drawing shows Major Pollock, Chief of the New York Air Police, leaving in his Salmson Scout for Bordeaux, en route for America, just as the daily Airco Continental Mail arrives from England. In the second drawing

2. COLLECTING PORT DUES: THE FRENCH HARBOUR-MASTER CHECKING FLIGHTS AND ANCHORAGE FROM A PASSENGER-CARRYING PILOT ABOUT TO CROSS THE CHANNEL.
4. TEARING UP GREAT FURROWS AS IT LANDS, BUT SAVED FROM CAPSIZING BY ITS DESIGN: THE AIRCO "D.H.14," EN ROUTE FOR CAIRO AND THE CAPE, DESCENDS IN FOG AT LE BOURGET.

the Harbour Master is seen collecting port dues. In this respect the big Handley-Pages which can fold their wings (as in the third drawing) have an advantage over big machines of rigid type, since the aeroplanes pay dues by metreage occupied. The fourth drawing shows the 450-h.p. Napier-engined Airco "D.H.14," piloted by Messrs. Cotton and Townsend and carrying 3½ tons of weight, on its way to Cairo and the Cape, coming to ground in a fog.—[Drawings Copyrighted in the United States and Canada.]

EDWARD THE CONFESSOR'S PALACE: A DISCOVERY NEAR WINDSOR.

By CAPTAIN A. VAUGHAN WILLIAMS.

THE excavations carried out by me last year, on what I believed to be the site of Edward the Confessor's Palace (which is known to have been at Old Windsor, though the exact spot was not known), have proved of very great interest and give fair promise of even greater.

Tighe and Davis record that the ruins of Edward's Palace stood near Old Windsor Church on the banks

the Saxons," mentions the probability of a British road coming from Old Sarum near Southampton via Sunningdale to Old Windsor, near the Albert Bridge, where the other Bourne enters the Thames, and this is called the "Battle Bourne."

Three years before the Great War I had been searching for the site of the Confessor's Palace, but it was not till I had read his book that I began to look for the British road, and then I found it, but not on the "Battle Bourne," but the Bourne before mentioned.

I made a survey of the ground, and the bearings of both the Roman moated camps on the east side are nearly true north and south. These camps were no doubt used by the Romans to guard the ford.

Continuing my survey, I found traces of the British road up to within one field of the Windsor Park wall. On the other side of this wall, I had been told when I first commenced looking for the Saxon Palace, nothing but forest had been, and that it would be unlikely I should find anything there. However, having failed to discover the site elsewhere, I entered the Park, feeling sure that there had been open glades, and Edward the Confessor, being a most religious man, would choose a retired spot to live in.

I picked up my bearings at the Park wall, and then I again found traces of the British road, and following this I came upon a site surrounded by a double fosse about 200 yards within the Park wall.

There the site within the inner ditch was hummocky, suggesting the remains of a wall; so, searching round some young trees planted about thirty or forty years ago, I found some pieces of ancient roof tiles in a rabbit hole.

I was prevented from prospecting then by the war, and decided to sit tight until the war should be over.

However, in September 1918, having obtained permission, I put down a small hole, and at the first dig

there is to be seen the spot where the handle has been broken off. Some small pieces of glass were also found.

The supports of what I take to be an arch connected to the kitchen were made of rubble, and fronted with a strong course of Bagshot Heath stone, but very roughly squared with a hammer. The walls of the kitchen are of Bagshot Heath stone of even earlier construction, being quite unsquared.

Then, to my disappointment, I found that there was a mediæval building extending from the kitchen to nearly the opposite side, of the thirteenth or fourteenth century, and the builders had destroyed all trace of the previous Saxon occupation. Then 30 ft. from the moat I found the site of the Saxon chapel, the walls of which are of very early date and of unhewn Bagshot Heath stone. These walls are not more than 1 ft. 3 in. thick, and therefore the building must have been quite low.

There is a well-preserved base of an altar on the eastern side measuring 8 ft. 2 in. by 3 ft. 6 in., and the floor round the altar had once been paved with Bagshot Heath stones. The altar is not in the centre of the chapel, but as most of the floor had been dug up, probably by the men who planted the trees, they may have disturbed the other wall. The measurements of the chapel are 23 ft. by 20 ft.

A very remarkable second altar of smaller size was found on the south side, nearly 4 ft. 6 in. by 3 ft., and this had a hearth of tiles on edge similar to the hearths of the kitchen. In front of this hearth was a V-shaped channel faced with tiles. I consider this was the blood channel of a Pagan sacrificial altar, such as is mentioned in Bede's "Saxon Chronicles," and when the Saxons were converted to Christianity the hearth may have been used for heating purposes. The stone enclosing this hearth is roughly-squared Bagshot Heath stone.

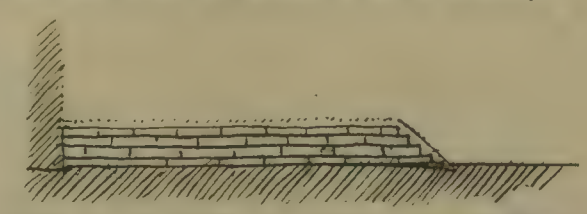
A six-foot pit was sunk, and at five feet a band of grey clay impregnated with fine charcoal was observed nine inches thick. A tunnel was then driven under the hearth (with a timber set to support the walls), the band of grey clay continuing and slightly curving upwards. Broken Roman tiles were found embedded in this; and, a sample of the clay being baked, it was found to be a very excellent terracotta clay. This is probably the clay left by the Roman potter, and the kiln will be found not far off, probably with some of the broken tiles and pottery.

The clay surroundings are the yellow clay of this district, but above the band is made ground, whereas below the band the original clay is *in situ*.

One piece of ancient pottery was discovered in the made ground, which may be Saxon, but it was too small to give a clue, being only about 1 in. square.

A nice piece of faced chalk was found in the chapel bearing herring-bone marks of the tool used for facing it: also some large pieces of chalk with deep markings, which put together formed a sort of pillar 3 ft. long by 1 ft. 6 in.

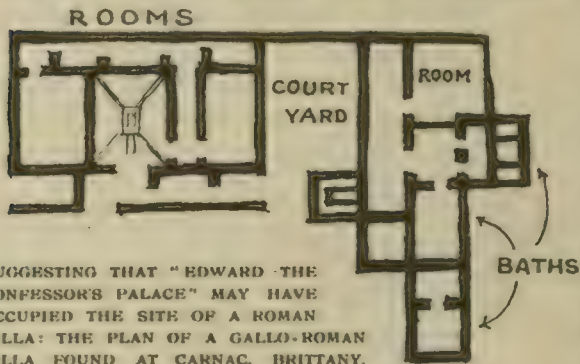
The exceedingly wet season has flooded the excavations, and before the summer it will be necessary to



FOUND IN THE CHAPEL OF "EDWARD THE CONFESSOR'S PALACE," NEAR WINDSOR: THE BASE OF AN ALTAR BUILT OF SUPERPOSED LAYERS OF TILES.

The dotted line shows how the tiles were smoothed over with mortar.

cut drains six feet deep to carry the water off, before we can continue the work of excavating. This will greatly increase the cost, and I am afraid we shall have insufficient funds to carry on with, unless the public subscriptions are forthcoming, as less than a quarter of the area has been touched. I would, therefore, appeal to all those interested in Saxon archaeology for their assistance, as so few Saxon remains of domestic buildings exist in this part of the country.



SUGGESTING THAT "EDWARD THE CONFESSOR'S PALACE" MAY HAVE OCCUPIED THE SITE OF A ROMAN VILLA: THE PLAN OF A GALLO-ROMAN VILLA FOUND AT CARNAC, BRITTANY, AND ANALOGOUS TO THAT OF THE REMAINS DISCOVERED AT WINDSOR.

of the Thames, and that they could still be seen. (If my memory serves me, this was in the reign of James I.)

It is very possible that what was seen was the site of the monastic buildings!

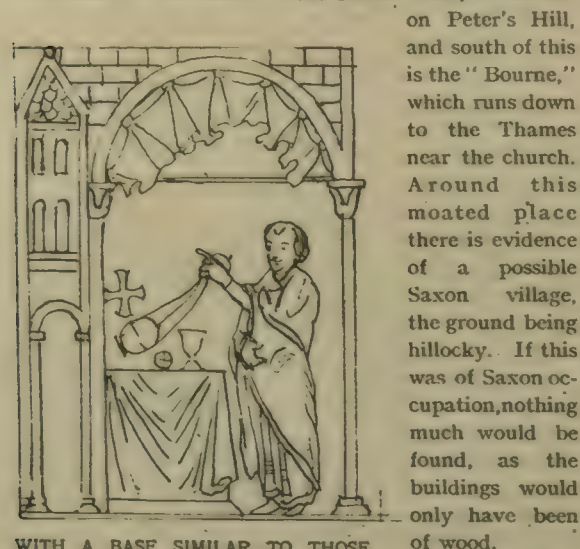
There is a stream still, which once may have been a moat, and there is a large dry ditch, which may have either been a moat or an ancient road; if the latter, it probably led from the church to Englefield Green.

About half-a-mile, as the crow flies, from the church is an ancient sunk road. Probably of British origin, Miller's Lane by name, this road evidently led from the ford on the River Thames through the village of Old Windsor, and thence for a quarter of a mile it passes between two fields, both of which are several feet higher than the crown of the lane. It is said that the surface of the road has been made of chalk; if so, this would have probably been done by the Romans.

This road passes nearly equidistant between two moated places. The one on the north side is called locally "Tileplace Farm," the "Castle," and "Caesar's Camp." Seventy years ago there still stood a large ruin there; but this was pulled down and the building material disposed of.

I have seen a letter from one of the then occupants describing it as of red brick with massive walls, and a large hall with a staircase, and a dungeon (without any window). It had rooms over. It is most unfortunate that it was not preserved. In the course of destruction, two Roman cysts of square section were discovered, one of which may be seen now in the Albert Institute at Windsor, and the other at the British Museum.

The other moated place has been a good deal disturbed, but I have found Roman tiles also there. This moat, to the south of the British road, is situated on Peter's Hill, and south of this is the "Bourne," which runs down to the Thames near the church.



WITH A BASE SIMILAR TO THOSE FOUND IN THE CHAPEL OF "EDWARD THE CONFESSOR'S PALACE": A DRAWING OF AN ALTAR FROM A NINTH-CENTURY MANUSCRIPT.

Around this moated place there is evidence of a possible Saxon village, the ground being hillocky. If this was of Saxon occupation, nothing much would be found, as the buildings would only have been of wood.

Major Godsall, in his "Conquest of London and the Thames by

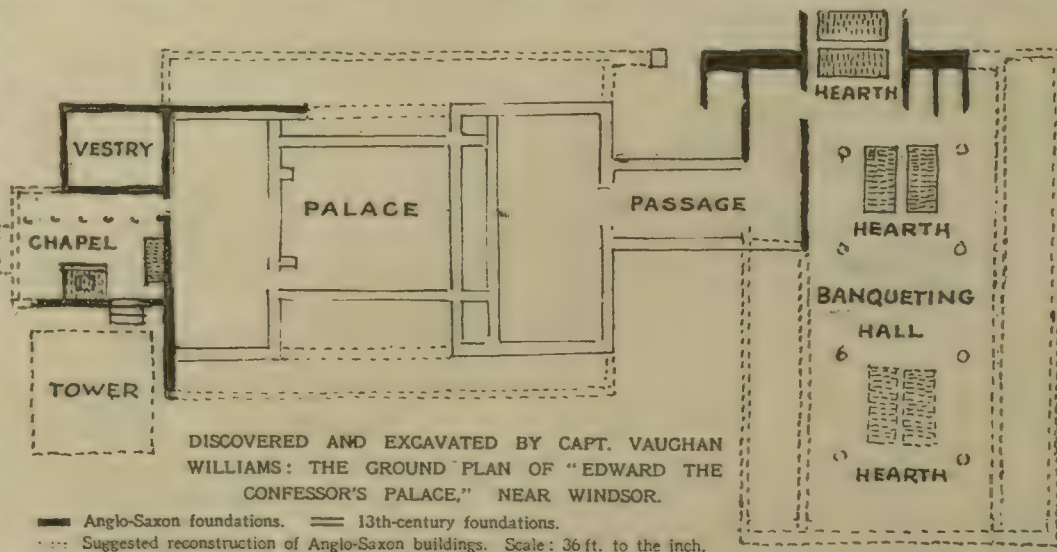
found a large piece of Reigate stone, and one of Bagshot Heath, neither of which had been cut. Being an invalid, I was unable to continue my investigations until 1919, and then, with help from the Berkshire Archaeological Society and the Windsor and Eton Scientific Society, I commenced more systematically.

The stones I had previously found had evidently come from the kitchen and banqueting-hall, of Saxon construction, and the kitchen was found still to possess two separate hearths, each of which measures 13 ft. by 13 ft., with a passage through the middle about 2 ft. wide, thus dividing each hearth into two and acting as a fender, which would enable the chef to pass between the two carcasses for basting purposes, whilst they were being turned on a spit by his assistants. These two hearths are at right angles to each other, and traces have been found which point to one or more hearths having been present. However, as the ground here had sunk considerably, I decided, as the winter was not far off, that it would be better to wait till the following year before completing this kitchen. In it were found, in the grass roots, many bones and pieces of fourteenth, fifteenth, and sixteenth-century pottery.

On the floor of the kitchen I found two pieces of bronze, one of which I take to be a Roman gauge, and which Mr. Booker, of the Society of Antiquaries, kindly measured, and the distance between the jaws is exactly a Roman inch.

The other piece of bronze is a segment of a large bowl, and the diameter was kindly measured for me by Mr. Reginald Smith, of the British Museum. It proved to be 18 in.

On looking through Akerman's book I found a plate representing a Pagan Saxon bowl of Roman pattern, and on the fragment found in the kitchen



DISCOVERED AND EXCAVATED BY CAPT. VAUGHAN WILLIAMS: THE GROUND PLAN OF "EDWARD THE CONFESSOR'S PALACE," NEAR WINDSOR.

EDWARD THE CONFESSOR'S PALACE, NEAR WINDSOR: A RECONSTRUCTION.

By A. FORESTIER.

IN the important discoveries made by Captain Vaughan Williams of the Anglo-Saxon constructions near Old Windsor certain facts are noteworthy. Captain Vaughan Williams' surmise that they were erected on the site of a Roman fort may be correct. There is no doubt that some Roman buildings existed on the spot, and the fact that they were surrounded by a double moat would add strength to his hypothesis. The presence of a similar place not far distant makes him consider both as forming a bridgehead protecting

Saxon buildings followed the Roman tradition in this respect; but, of course, the wooden structures—or what remained of them—disappeared when the palace was rebuilt in the thirteenth century. It is, however, to be inferred that probably corridors ran on both faces of the building. They assumed sometimes the shape of a portico, and such may have been the case in the Confessor's palace on the side facing the great court, although the low buildings, consisting probably of one floor, did not admit of any considerable development.

means of wooden partitions into several apartments. A distinctive feature of the excavations is to be found in the foundations of the small adjoining buildings at the south-western end. There the analogy with the Gallo-Roman building ceases. Captain Vaughan Williams seems to be quite correct in his surmise that one of those was a chapel. A tile base discovered therein, and measuring 8 ft. 2 in. by 3 ft. 6 in., must have supported an altar. In fact, in a drawing from a manuscript of the ninth century of the Firmin Didot Collection,† an altar on an identical base is figured and represented as belonging to a nobleman's private chapel. We give a tracing of part of this reproduction.

Where I feel at variance with Captain Vaughan Williams is on the subject of another layer of tiles which he would feel disposed to call a sacrificial hearth.

If we adopt the conclusion that Edward the Confessor had a palace built for himself on the site of a previous Roman building, we can be certain that he would not have tolerated the performance of any pagan rite in what was his private chapel, and his clergy still less.

A little stone channel runs at the side of the tiles, and was meant in the case of a sacrifice to carry away the blood of the victims. A simpler explanation is that the tiled portion of the floor must have been used as a base for a baptismal font, the channel being to collect the occasional overflow of water.

Baptism by immersion had long since given place to baptism by infusion, and, instead of taking place outside in a special baptistery, the sacrament was administered, as at the present day, in a church. Needless to say that in the important royal household many births occurred, and therefore many christenings.

There is, so far, no foundation to indicate how far the chapel extended, but the proximity of the moat could not have allowed it to go much beyond twenty-five feet. The small adjoining building, the foundations of which are well defined, may have been a vestry communicating directly with the chapel, to which access must also have existed directly from the palace building. A door also opened from the outside near the altar. Close to the chapel stood the watch-tower, a narrow passage dividing the two, on which opened the above-mentioned door. Perhaps a corresponding door gave access to the tower, which is represented in our large drawing as a wooden structure built on the lines of the very few Anglo-Saxon church-towers left in existence.

The three buildings—vestry, chapel, and tower—obviously could not be found attached to the Gallo-Roman villa described above, a private dwelling probably anterior to the dissemination of Christianity in the remote provinces of Gaul such as Brittany. Moreover, we see in England in the plan of the Romano-British town of Silchester that the church, a small building, stood isolated, well apart from the town houses.

The chapel seems to have been attached to the thirteenth century building that replaced the Confessor's palace. The fate of that building is not known.

† P. Lacroix—"La Vie Militaire et Religieuse au Moyen-Age."



IN THE DAYS OF EDWARD THE CONFESSOR: A TYPICAL SCENE IN THE BANQUETING HALL OF HIS PALACE, WHOSE SITE HAS BEEN FOUND NEAR WINDSOR.

The King is seen in the background towards the right. Tapestries are hung round the walls to keep out draughts and overhead to catch cobwebs. On the large hearths (see plan opposite) whole oxen could be roasted. The smoke escaped through holes in the roof and the unglazed windows. Light was given by hanging lamps, torches, and the glow from the fires, which also heated the hall.

A Reconstruction Drawing by A. Forestier.

a Roman road, itself an old British road, leading to a ford of the River Thames.

Now was the Roman building of a military nature, or was it not one of those villas (*villæ*) which the Romanised Britons, like the Gallo-Romans in Gaul, erected as country residences? One of these *villæ*, discovered at Carnac in Brittany,* the foundations and remains of which are sufficiently well preserved, offers a striking analogy of plan with that of the building discovered by Captain Vaughan Williams. We publish the plans of both for comparison. (See opposite page.)

It should be remarked that the Gallo-Roman building was not fortified. At that time Gaul enjoyed profound peace. The Romans were absolute masters of the country; and particularly in Brittany, very far from the frontier, they had nothing to fear—save, perhaps, from the sea; but this was a long time before the Norman incursions. The state of England was probably not so peaceful when the Roman buildings were erected, and either civilian or military protection against roaming bands had to be sought; but the moat may only date back to Saxon times.

In any case, the Saxon building—or palace, to give it its proper name—seems to have followed the lines of a plan probably commonly in use for Roman rural habitations.

The sub-division of the main building in three parts is noticeable. The foundations, dating back to the thirteenth century, of a building which superseded the Saxon palace, show the same arrangement, and one might admit that there was perhaps no great change in the appearance of the place, save in the materials used and certain architectural improvements.

According to our views on this attempt at reconstruction of the Saxon plan suggested by Captain Vaughan Williams' excavations, it will be noticed that a small courtyard separated the main building from the kitchen-banqueting-hall which runs at a right angle to it. The same disposition may be observed in the Gallo-Roman plan, and the proportion of this yard is very nearly identical in both plans. The width of the banqueting-hall exceeds that of the courtyard, just as in the Gallo-Roman construction the building at right angles is broader than the courtyard. Only this building is chiefly devoted to the baths, so important in Roman life, which knew nothing like Saxon banquets. Both buildings in the two plans were connected. The

We see in the Bayeux tapestry the followers of Harold on his return to England drinking and making merry in the solar room on the first floor of a house provided with a round arched portico. A flight of steps built outside the gable end of the house gives access to the room.

If any such room did exist in Edward's palace, it must have been more in the nature of a loft reached by means of an internal stair—or rather, ladder—such as are used in the old Scandinavian houses, to which one must often turn to gain some idea of the Anglo-Saxon style of wooden buildings. We may also suppose that Norman architects and artisans were employed by Edward, and the Norman constructions of the period generally consisted of one large room with no floor above. This room might be sub-divided by



AS IT WAS IN THE DAYS OF EDWARD THE CONFESSOR: THE CHAPEL OF HIS PALACE AT WINDSOR—SHOWING THE FONT ON THE RIGHT.

The chapel was a small building about 20 ft. wide. The door on the left led to the King's apartments. The main door faced the altar. Mr. Forestier suggests that a part of the floor where tiles have been found marks the position of the font (as shown here). Capt. Vaughan-Williams thinks it was the base of another altar (see article opposite).—[A Reconstruction Drawing by A. Forestier.]

* Charles Garnier—"L'Habitation Humaine."

THE DISCOVERY OF A SAXON ROYAL HOME NEAR WINDSOR

A RECONSTRUCTION DRAWING



AS IT WAS IN THE TIME OF EDWARD THE CONFESSOR: HIS PALACE, WITH
DISCOVERED NEAR WINDSOR, BY CAPTAIN

The romance of archaeological discovery is usually associated with distant lands, like Egypt, Palestine, or Mesopotamia, but it sometimes happens that the spade of the excavator brings to light relics of deep interest nearer home. In an article on the first of two preceding pages, Capt. Vaughan Williams describes the results of his investigations near Windsor, where he has found what he believes to be the site of Edward the Confessor's Palace, known to have stood there. The details of the remains, as thus revealed, are fully explained in his article, which is illustrated by plans. On the page facing it is another article on the subject by Mr. A. Forestier, our artist, who in the above drawing has reconstructed the palace as it probably appeared in the days of Edward the Confessor, and in two smaller drawings accompanying his article has pictured typical scenes in the interior of the buildings at the same period. In one or two minor particulars, it will be noted, Mr. Forestier differs from Capt. Vaughan Williams in his explanation of certain parts of the site. Thus, in the chapel (seen next



"EDWARD THE CONFESSOR'S PALACE" AS IN HIS OWN DAY.

BY A. FORESTIER.



BANQUETING-HALL AND CHAPEL, RECONSTRUCTED FROM THE REMAINS
VAUGHAN WILLIAMS; (WITH KEY-PLAN INSET).



to the lower in the above drawing), a tiled section of the floor is taken by Capt. Vaughan Williams to have been the base of a second altar, of a pagan sacrificial type, while Mr. Forestier regards it as the base of the font. There is a question, too, whether the palace stood on the former site of a Roman military building, or of a Roman villa, such as that found at Carnac, in Brittany. Apart from these side issues, the discovery is one of intense interest, not only on account of the scarcity of Saxon remains in this country, but from the historic memories that gather round the spot, and its proximity to the ancestral home of British kings. Index to Key-Plan: A, Palace; B, Banqueting Hall; C, Chapel; D, Vestry; E, Tower; F, covered passage; G, inner courtyard; H, gate to inner courtyard; I, slaughter-house and open-air kitchens; J, corridors; K, well; L, great court; M, main gates; N, side and back gates; O, barracks, stables, forge, bakery, barns, store-rooms, etc.; P, palisade; Q, double moat; R, barban; S, causeway; T, serfs' village, cattle-sheds, etc.; U, orchard; V, sentries' shelters.—[Drawing Copyrighted in the U.S.A. and Canada.]

ART IN SALES.

BY ARTHUR HAYDEN.

THERE is much abstruse talk nowadays concerning sub-consciousness. Perhaps, after all, it is just that "still small voice" which men have called conscience. Apart from the moral plane, in the realm of æsthetics there is an inborn sensitiveness in apprehending the presence of a masterpiece. Whether it be a poem or a picture, there is that quivering of the pulse and that silent exaltation which make the collector a devotee and his connoisseurship a religion. Intuition becomes more electric, and instinct, almost to the point of self-preservation, becomes armed with foresight. Macbeth, with his "By the pricking of my

encompass the poetic spectator when he sees the life's failures of him whose great heart broke, covered with gold pieces. It is the price posterity pays to illuminate his name when she takes him to her cold bosom.

When William Blake, that visionary, poet, painter, and artist-engraver, wrote that his works were "the delight and study of archangels," he projected his mind to a region beyond and above the mediocre criticism of his day. Blake holds the stage by no meretricious limelight, but by a real forceful personality that has commanded a following growing in intensity since his death in 1827. As a strange and inexplicable genius he has had his interpreters, and while he lived Fuseli, to quote his own words, found him "dam'd good to steal from," as did others. Stothard's "Canterbury Pilgrims" had a striking resemblance to Blake's "Pilgrimage." Charles Lamb, having read Blake's Descriptive Catalogue to his drawings and frescos, pronounced it to be the finest analysis of Chaucer's poem he had ever read. Letters of Blake throwing light upon his curious mind attract all lovers of his work. Messrs. Sotheby recently offered some for sale, including one to William Hayley the poet, and another to George Cumberland, written four months before his death, with a card Blake had engraved for him. This is the last thing he did. But a letter to Flaxman is exceptionally interesting. Blake had exchanged his residence in grimy Lambeth for a cottage at the seaside village of Felpham in Sussex. In September 21, 1800, he writes—

Dear Sculptor of Eternity,

We are safe arrived at our Cottage which is more beautiful than I thought it and more convenient. Felpham is a sweet place for study, because it is more spiritual than London. Heaven opens here on all sides her golden gates: her windows are not obstructed by vapours; the voices of celestial inhabitants are more distinctly heard and their forms more distinctly seen; and my cottage is also a shadow of their houses. . . . And now begins a new life for another covering of earth is shaken off. I am more famed in heaven for my works than I could well conceive. In my brain are studies and chambers filled with books and pictures of old, which I wrote and printed in ages of eternity before my mortal life; and these works are the delight and study of archangels. Why then should I be anxious about the riches or fame of mortality?

Here, then, is an example of the consciousness and sub-consciousness of genius mingling and co-mingling when realities become visions and visions realities. Blake is a curious literary anachronism. He was before Burns and before Wordsworth and before Cowper, and his verses may be said to have first given voice to the modern spirit in poetry.

Speaking of a dinner-party at which Blake sat next to her and Sir Thomas Lawrence was present, Lady Charlotte Bury writes: "Then there was another little eccentric artist named Blake . . . he appeared to me full of beautiful imaginations and genius, but how far the execution of his designs is equal to the conceptions of his mental vision I know not, never having seen them . . . his countenance radiated as he spoke of his favourite pursuit, and he appeared gratified by talking to a person who comprehended his feelings. I can easily imagine that he seldom meets with anyone who enters into his views—for they are peculiar and exalted above the common level of received opinions. I could not help contrasting this humble artist with the great and powerful Sir Thomas Lawrence, and thinking that the one was fully, if not more, worthy of the distinction and the fame to which the other had attained but from which he is far removed. Mr. Blake, however, though he may have as much right from talent and merit to the advantages of which Sir Thomas is possessed, evidently lacks that worldly wisdom and that grace of manner which make a man gain an eminence in his profession and succeed in society." To-day's auction-room records put the "insignificant little person" on a plane worthy of his genius, and so it comes to pass that he has won eternity and his works are the "delight and study" of those who were unborn when he crystallised his visions.

A great find has just been made in an extraordinary volume of Shakespeareana, so great that the little volume of five rare items, bound together in contemporary

vellum covers, enclosing pages of 5 in. by 3 1-8 in., has a special catalogue and a special sale of its own, to be conducted by Messrs. Sotheby on March 23. This volume bursts as an exceptional surprise on the bibliographical world, as it offers so many features rare and unique. It is only to be compared with the "Venus and Adonis," the "Passionate Pilgrim," and a third item which was sold on Dec. 16, 1919, by Messrs. Sotheby at the Britwell Court Sale to Mr. Huntingdon, of New York, for the sum of £15,100.

Shakespeare's "Passionate Pilgrim and Sonnets," 1599, is made up of two issues, one of which was hitherto unknown. The Britwell copy, 1599, was deemed to be the first edition. But in this unknown copy several bad misprints occur which are corrected in the Britwell copy suggesting that this may be earlier.

Shakespeare's "Lucrece" (London. Printed by I. H. for John Harison, 1600), is the third edition. Only one other perfect copy is known, that being in the Malone Collection, Bodleian Library, which library has also another imperfect edition. No other copy is known to exist in any private collection. This new find (one of the five items) is in splendid condition.

Thomas Middleton's "Ghost of Lucrece," printed by Valentine Simmes, 1600, is a unique and hitherto unknown work, being apparently an imitation of Shakespeare's "Lucrece" and written in the same metre.

Shakespeare's "Venus and Adonis" was imprinted at London for William Leake, dwelling in Paules Churchyard, at the signe of the Greyhound, 1599. This is the extremely rare fifth edition which has hitherto been believed to exist in one copy, that at the Bodleian Library, which copy lacks the title-page. In this copy the title-page has, perforce, been written in ink. It is now seen that the fifth edition was issued in the same year as the fourth with an identical imprint. The illustration shows this title-page, and our other

ON a day (alack the day,
Lone whole month was enur May;
Spied a blabome passing faire,
Playing in the wimron aire,
Through the velvet leas the wende
All vnto en gampage find,
That that fair (licked to death),
With him felt the heauens breath,
Aye (quoth he) thy cheeks may blowe,
Aye would I might triumph fo
But alas my hand hath for me,
Nere to pick thee from thy throne,
Vnto call thee for youth vnto meet,
Youth, I apt to pluck a flower,
Thou for whom I would foregoe
Iuno but an Ithope were
And deny him self for Ioue,
Turning mortal for thy Loue.

FOUND IN A LUMBER ROOM AT LONGNER HALL: A PAGE FROM A HITHERTO UNKNOWN 1599 EDITION OF SHAKESPEARE'S "PASSIONATE PILGRIM."

In a lumber room at Longner Hall, near Shrewsbury, the home of Mr. R. F. Burton, was recently found a little volume containing five items, including Shakespeare's "Passionate Pilgrim" (1599), "Venus and Adonis" (1599), "Lucrece"; and Middleton's "Ghost of Lucrece."

By Courtesy of Messrs. Sotheby, Wilkinson, and Hodge.

thumbs," grew fearsome of evil surroundings, and betrayed his receptivity. It is the same sensibility which enables the courageous to recognise the malevolent in art, and to eschew all leanings to Moloch, however subtly they may be disguised.

Works of art, the living masterpieces of dead masters, are ministers of the present generation. They are hauled forth to the rostrum to be sold, as a slave is sold, to the highest bidder. The spectator may, if he be so minded, fall into a muse in the crowded auction-room, and weave dreams and reconstruct the life-history of objects of art. His is the seeing eye to picture the visions that often pass with the fall of the hammer into outer darkness.

The sale-room is the great urn of Fate where reputations come under the test of posterity; *aqua lege Necessitas sortitur insignes et imos*. Altars of yesterday are overthrown and many an idol is shattered in to-day's auction mart. There is a certain unnamed delight in witnessing the dethronement of some unworthy wielder of the sceptre in his brief day. Many would-be immortals have no shred of their purple left, but stand shivering with the abject outcasts. In the world of yesterday, with coach and running footmen, and fine town house, with the world of fashion bowing in simulated discernment and delight, our genius was once the vogue. In vain many another sought to emerge from the wretched garret and escape from the clutches of the bailiffs—to one fame and wealth; to the other failure and starvation. A tinge of sadness must always

VENVS. AND ADONIS.

*Viliamiretur vulgus: mihi flauus Apollo
Pecula Castalia plena ministrat aqua.*



Imprinted at London for William Leake, dwelling in Paules Churchyard, at the signe of the Greyhound. 1599.

HITHERTO BELIEVED TO EXIST IN ONE IMPERFECT COPY ONLY (AT THE BODLEIAN): THE TITLE-PAGE OF THE NEW COPY OF THE FIFTH EDITION OF "VENUS AND ADONIS."

By Courtesy of Messrs. Sotheby, Wilkinson, and Hodge.

illustration gives a page of the "Passionate Pilgrim" from this hitherto unknown edition.

All things are possible in the realm of collecting, and it is the unexpected which happens. That so delectable a find should at this late day have been made in a lumber room at Longner Hall, near Shrewsbury, indicates possibilities even yet in muniment rooms and in places where archives are wont to lie unregarded till some kindly hand brings them into the light of day.

"MOOVING IN THE GAY THRONG": "THE YOUNG VISITERS" STAGED.

PHOTOGRAPHS BY FARRINGTON PHOTO PRESS: I.B., AND C.N.



A REPAST AT BERNARD CLARK'S: ETHEL MONTICUE (MISS EDYTH GOODALL); BERNARD CLARK (MR. H. ANSTRUTHER); AND MR. SALTEENA (MR. BEN FIELD).



AT THE LEVIE: MR. SALTEENA MASQUERADES AS LORD HYSSOPS AND IS PRESENTED.



THE AUTHOR OF "THE YOUNG VISITERS" WHEN SHE WROTE IT: MISS DAISY ASHFORD; AGED NINE.



PLAYING "DAISY ASHFORD" IN THE COURT PRODUCTION: MISS AUDREY CAMERON.



AS SHE IS TO-DAY: MISS DAISY ASHFORD (NOW MRS. JAMES DEVLIN).



IN THE "PRIVITE COMPARTMENTS" AT THE CRYSTAL PALACE: MR. SALTEENA'S "EARLY BEVERAGE."



THE PROPOSAL: BERNARD CLARK (MR. H. ANSTRUTHER) AND ETHEL MONTICUE (MISS EDYTH GOODALL).

Miss Edyth Goodall's production of "The Young Visitors," at the Court Theatre, last week was an event of great interest. When the book, written by Miss Daisy Ashford at the age of nine years, was published, it created a furore, owing to the charm of its stilted language and quaint childish ideas. The principal characters—Mr. Salteena, "not quite a gentleman, but you would hardly notice it, but can't be helped anyhow"; Bernard Clark; Ethel Monticue, with her passion for "red ruge"; the Earl of Clincham,

and the rest, are so well known that to most people they need no introduction, but they express their naïve charm and remarkable sentiments with even greater effect on the stage than in the novel. Miss Daisy Ashford's book has been dramatised by Mrs. George Norman and Miss Margaret MacKenzie, and is a three-act play. It has been approved by the author of the novel, who, by the way, is no longer Miss Daisy Ashford, for she recently married Mr. James Devlin.

IN A CIRCLE OF KEROSENE FLARES: ROUNDING UP WILD ELEPHANTS BY NIGHT IN THE FORESTS OF BURMAH.

DRAWN BY A. FORESTIER FROM MATERIAL SUPPLIED BY DR. SAU PO MIN, PRESIDENT OF THE NATIONAL KAREN ASSOCIATION OF BURMAH.



TWO ELEPHANTS TURNING TO SHOW FIGHT, AND BEATERS TAKING REFUGE UP TREES: DRIVING THE ANIMALS TOWARDS A *KHEDA* BY A CIRCLE OF LIGHTS.

Wild elephants in Tenasserim, Southern Burmah, are captured and trained for timber-hauling. On another page we illustrate the *kheda*, or enclosure, into which they are driven. The dangerous work of rounding them up at night in their native forests, done by Karens, is thus described by Dr. Sau Po Min: 'When the *kheda* has been built, a five-mile square of fire-line is made, with 250 flares to each mile, and a hut 150 ft. from the ground for two watchers. There is also an inner fire-line. The *kheda* is then consecrated and prayers are offered for the safety of the men. . . . The watchers have to light the fires as soon as the elephants are driven within it. Fifteen men are sent out to drive in the elephants. . . . They have to use weapons, such as long knives, spears, and guns. They must know the parts of the

forest where the elephants live, and to drive in the elephants they have to go from one to three days' journey. The elephants have to be slowly driven in by night. During the daytime, the men have to watch them in a circle from afar, and note the position of big trees, so that in case of the elephants chasing them they may save themselves by climbing. When once the elephants have been driven into the fire circle, the watchers are given the word, and all the fires are lighted. Then they shout and fire their guns, and when the elephants get into the inner circle they do the same thing there. The elephants then are forced to enter the *kheda*, which is closed.' It will be noted in the drawing that there is an outer circle of lights, held higher on poles, beyond the inner circle of those being planted in the ground.—[Drawing Copyrighted in the United States and Canada.]

BOOKS OF THE DAY

By E. B. OSBORN.

THE memorial biography of pre-war days, so often a huge cairn of confused material, is certainly destined to extinction. Mr. Lytton Strachey has shown us a better way, having grasped the fact that it is as difficult to write a good life as to live one, and also proved to his own satisfaction, and that of the many readers who delight in the tang of his bitter irony, how unkind it is to hide the features of the mighty dead in clouds of tedious panegyric. Some critics deplore his merciless application of the maxim of a master of his art—"Je n'impose rien; je ne propose rien; j'expose"—and have blamed him for destroying the accepted effigies (in plaster-of-Paris not at all Parisian) of such revered personages as Manning, Newman, Arnold, Florence Nightingale, and General Gordon. Thus Mr. S. B. P. Mais, a critic with a pleasing gift of romantic enthusiasm, declares in "BOOKS AND THEIR WRITERS" (Grant Richards; 7s. 6d. net) that his volume of Victorian portraits should be read as "an amusing example of what perverted cleverness can do." But I feel sure that Mr. Strachey gets far closer to the truth than any of the pious biographers whose works are really hugely inflated newspaper obituaries, carrying the adage "*De mortuis nil nisi bonum*" to such a pitch of laborious absurdity that the whole Victorian Age has become dehumanised in the minds of modern men—so much so, indeed, that a young "Georgian" poet told me the other day that he had to travel (in his reading) all the way back to the eighteenth century in order to meet the kind of people to whom you would lend half a crown to get drunk on. Mr. Strachey, it is true, has a trick of paradoxical writing which is apt to hide his passionate love of the truth, the whole truth, and nothing but the truth, from the eyes of matter-of-fact persons. Thus he writes: "The history of the Victorian Age will never be written: we know too much about it. For ignorance is the first requisite of the historian—ignorance, which simplifies and clarifies, which selects and omits, with a placid perfection unattainable by the highest art." Here is a saying which causes him

at once to be suspected of being merely a humorous iconoclast—like the half-tipsy gentleman who walked through the National Gallery last week and scandalised the other visitors by cocking a snook at every representation he happened on of a solemn and dignified personality. But there is a profound truth in Mr. Strachey's paradoxical words, for the ignorance he speaks of is generally the work of Time, which prepares the way of the judicious historian by ruthlessly eliminating a vast amount of insignificant detail and leaving only the broad, firm outlines of the actuality that endures. Which is why we really know more about Pericles and Caesar than we do about Disraeli and Gladstone.

"WILLIAM BOOTH, FOUNDER OF THE SALVATION ARMY" (Macmillan; two vols.; illustrated; 42s. net), by Harold Begbie, seems at first sight a very portentous example of the cairn-like biography. A thousand close-packed pages would seem an excessive allowance for the creator of the Salvation Army, that wondrous and still powerful organisation which has extended its conquests into every quarter of the planet, and so strangely combines the features of the Mendicant Friars and one of the military Orders of the Middle Ages. Moreover, it is a fulsome panegyric from first to last, for Mr. Begbie, whose emotion of sympathy so easily becomes a tumultuous commotion, is blind to the personal faults of his idol, and assails the opposers of "corybantic Christianity," such as Huxley, with outrageous vehemence. For all that, he has solved the secret of William Booth's significance in his own epoch, and for all time perhaps; and it is a great pity that the reader has to disentangle the vital facts from such voluminous skeins of emotional verbiage. The book begins well with a vivid picture of the vexed and savage age into which General Booth was born in 1829, which was for Nottingham, his birthplace, a year of natural catastrophes of an appalling kind. Nine months before his birth the town

was scourged and flooded by the most terrific tempest within living memory; three days after his birth immense masses of rock gave way in the centre of the city and in the then neighbouring hamlet of Sneinton, plunging down in chaotic ruin upon the houses below. Then, and for many years to come, there was in Nottingham a seething mass of a kind of poverty which is almost unthinkable in these days, when what the French call *la misère* (we have no English

And eight years later, to take another example of bygone barbarism, Edward Stevenson, rag merchant, sold his wife for a shilling in the sheep market, articles of agreement being afterwards signed by the two men concerned and the poor woman herself, she being the only one who could produce a written signature.

William Booth had a genius for emotion—the "enthusiasm" of Wesley and his disciples—and was naturally caught up in one of the spiritual conflagrations known as revivals which are always appearing and disappearing in the great industrial centres of England—as much "burnt-over areas" in their way as the regions in New England, which have produced Mormonism and many other freak religions. He knew little about the subtleties of theology and cared less; he simply and sincerely accepted the doctrine of man's fatal fall from grace and of his restoration by virtue of Christ's blood, the vision of which "streamed in the firmament" for him until his life's end. Conversion was to him a great and permanent reality, the upward turning-point in every individual's spiritual life. But, because of his keen sympathy with the masses of humanity, he refused to accept the Calvinistic doctrine which limits the number of the elect. Logically, he should have done so—but he, like all others who have led men, knew when and how to be illogical. His later philosophy of right living, for the loftiest and the lowliest alike, was expressed in the following words: "You must worship God, consecrate yourself to His service, and do what you can for the benefit of those who are round you. You must be good and true and

honest and kind, and do all you can for your family and friends. You must persevere as the days go by, and so shall you have a peaceful dying-bed and a blissful immortality." It is certain that his wife's influence enlarged for him the vistas of faith in God and man, and saved him from the rigid tenets of any established sect. The joy of marriage, the after-glow of which lay mystically over his last years, was for him a stepping-stone to heavenly ardours. All true religion has in it an element of ecstasy, a sudden, entrancing sense of other-worldly delight, which flames above and beyond the reach of reasoning. Because he grasped this truth, which had been lost by so many of the hard-minded Victorians, and also saw that any man, however far he had fallen, might be lifted up by friendship, by personal service that gives and asks something, he was in the end able to make himself a power for spiritual progress in the underworld, which was then ignored—or at any rate neglected—by the established religious organisations.

Like almost all the great mediæval mystics, he combined a capacity for affairs with a strong, overwhelming egoism. He was more of an autocrat than any military General, and the Salvation Army, under the unchallenged control of his capable son, is the one surviving autocracy in the new world of to-day. There was never a grain of truth in the charges of personal corruption brought against him from time to time, and Mr. Begbie need not have waxed indignant in discussing them. But his social work has been severely, and to some extent justly, criticised by experts on the organisation of charity. The salvage schemes originating out of his famous book, "*In Darkest England*," had not the success he hoped for; the effect of them too often was to turn poor men into paupers and to interfere injuriously with the remedial work carried on by experts trained in Toynbee Hall and other settlements, which were, and still are, indispensable laboratories of sociology. His own written reminiscences have no literary value; they are often marked by an unpleasing note of querulousness. But he was a great man, and will be remembered with those great men of the Middle Ages who opened doors of spiritual hope in the tragic underworld of Feudal civilisation. He is one of those to whom we shall have owed our immunity from violent Revolution.



THE LATE HOPE MERRICK (MRS. LEONARD MERRICK), WHOSE NOVEL, "MARY-GIRL," HAS JUST BEEN PUBLISHED.

Photograph by Russell.

equivalent for the word in its social connotation) has been virtually abolished in all English cities, though you still meet with it in the jungle-like slums of Dublin. These horrors produced an indelible impression on the mind of General Booth. "When but a mere child," he wrote in his preface to "*In Darkest England*," which was published in 1890, "the degradation and helpless misery of the poor stockingers of my native town, wandering gaunt and hunger-stricken through the streets, droning out their melan-



MR. EDGAR RICE BURROUGHS, WHOSE NEW NOVEL, "THE GODS OF MARS," HAS JUST BEEN PUBLISHED.

Photograph by Windzell.



MR. GILBERT FRANKAU, WHOSE NEW NOVEL, "PETER JACKSON, CIGAR MERCHANT," HAS JUST BEEN PUBLISHED.

Photograph by Russell.



MR. ARCHIBALD MARSHALL, WHOSE NEW BOOK OF SHORT STORIES, "THE CLINTONS AND OTHERS," HAS JUST BEEN PUBLISHED.

Photograph by Russell.

choly ditties, crowding the Union or toiling like galley-slaves on relief works for a bare subsistence, kindled in my heart yearnings to help the poor which have continued to this day, and which have had a powerful influence on my whole life." But the instances of social savagery must have struck more deeply still. In 1844 there was a public hanging, and so vast was the concourse to see the dismal spectacle that twelve persons were crushed to death and more than a hundred seriously injured.

ELEPHANTS "PACKED LIKE SARDINES": ENTRAPPED IN A BURMESE KHEDA.

DRAWING BY A. FORESTIER, FROM MATERIAL SUPPLIED BY DR. SAU PO MIN.



"LASSOOING" THE FEET OF CAPTURED ELEPHANTS: A FULL KHEDA; (INSET) CUTTING A ROPE TO DROP THE GATE.



SHOWING (ON THE LEFT) THE "PORTCULLIS" WHICH DROPS WHEN THE ELEPHANTS ARE INSIDE: A BURMESE KHEDA.

The rounding-up of wild elephants in Burmah is illustrated on a double-page in this number. Describing a *kheda*, Dr. Sau Po Min, a Burmese who is officially authorised to capture elephants, writes: "At first we have to find the elephants' tracks, and where many tracks converge into one, there the *kheda* has to be erected. Its length is from 350 ft. to 400 ft., breadth, 30 ft., and height from 15 to 20 ft. The *kheda* is made of good strong logs about 2½ or 3 ft. in circumference. The logs are 6 inches apart: they are sunk down 2½ ft. into the ground, and strongly fastened together by canes. On the front part of the *kheda* there is a gate, over which is a little shed, 30 ft. above the

ground, to hold two men, whose duty is to shut the gate. About eighty elephants can be driven into the *kheda* at once. Each elephant has to be tied by 20 or 30 cords, a task that sometimes takes two or three days. Then one after another is taken out." When tamed, they are trained for haulage and transport work, and after 3 or 4 months become docile as domestic animals. It should be explained that the upper drawing illustrates a scene which takes place at night, but the artist has shown it in daylight, to bring out the details. Nooses are placed inside the *kheda* to snare the elephants' feet, the ropes being drawn through the palisade—[Copyrighted in the United States and Canada.]

THE DOLLS' HOUSE AS NATIONAL TREASURE: GERMAN—17TH CENTURY.

BY COURTESY OF THE VICTORIA AND ALBERT MUSEUM. CROWN COPYRIGHT RESERVED.



MR. OLIVER BRACKETT, of the Victoria and Albert Museum, writes : "It was in the seventeenth and eighteenth centuries that the fashion became general in Europe for making dolls' houses which were true models of houses of the period. They were made in considerable numbers in France, Germany, Holland, and England. There are two specimens in England, in private possession, which are particularly remarkable. One is at Uppark, in Sussex, and the other at Nostell Priory, in Yorkshire. Both these belong to the eighteenth century, and are complete and valuable records of the period in which they were made. In both cases all the details of furniture and decoration of the eighteenth century are faithfully reproduced: beds with silk hangings of red, blue or yellow rooms covered with panelling or wall papers, mahogany

furniture, chandeliers, wall scones, and other ornaments with utensils in silver and earthenware. In some instances these models reflected the splendour of the great houses of the time; others show, as a contrast, the character of the middle-class dwelling. The two examples here illustrated are exhibited in the Victoria and Albert Museum. One is dated 1673, and shows a middle-class house, such as a prosperous artisan of Germany might have occupied in the seventeenth century. This house has four rooms only, without hall or staircase, stairs from the ground to the first floor being hidden within a cupboard in the corner of one of the rooms. The four rooms represent, on the first floor a bedroom and sitting-room (the latter also containing a small bed), and a kitchen and scullery on the ground floor. In the furnishing of the rooms many

*(Continued below.)*ILLUSTRATING THE DOMESTIC ARRANGEMENTS OF A PROSPEROUS GERMAN ARTISAN 250 YEARS AGO:
A NUREMBERG TOY HOUSE MADE IN 1673.*(Continued.)*

typical features of German life of the day can be studied. The bedroom is almost filled by the bed, which is heaped with mattresses after the fashion of the country. In the adjacent room a large porcelain stove is conspicuous in one of the corners. All the

rooms are panelled in pinewood, and in some cases have sideboards and a bench forming part of the panelling—a characteristic feature found especially in Southern Germany and Switzerland. Walls and tables are almost covered with pewter vessels of various shapes."

THE DOLLS' HOUSE AS NATIONAL TREASURE: BRITISH—20TH CENTURY.

By COURTESY OF THE VICTORIA AND ALBERT MUSEUM. CROWN COPYRIGHT RESERVED.



OF this dolls' house Mr. Oliver Brackett writes: "It shows with remarkable accuracy the character of an English house of the early twentieth century, and reflects the indefinable quality known as the atmosphere of the period. In the centre is the hall, with dining-room and kitchen on each side, drawing-room and billiard-room above, and bedrooms and bathroom on the top storey.

All the trivial details of modern life are accurately reproduced, and in the distant future, when modern fashions and habits have changed or developed, this model of a house of the early twentieth century will no doubt be regarded with the same curiosity and interest that we show to-day to similar work of our ancestors."

ILLUSTRATING THE DOMESTIC ARRANGEMENTS OF AN ENGLISH HOUSEHOLD OF TO-DAY: A DOLLS' HOUSE
MADE BY MAJOR R. S. HUNTER BLAIR DURING THE WAR.

A dolls' house is usually regarded rather as an item in the equipment of a nursery than as an exhibit in a museum, but, as Mr. Oliver Brackett points out in his interesting article, part of which appears on the opposite page and part in the note above, that which to-day is only a toy may in some future century provide valuable detail for historical study. The dolls' house, with its fittings, illustrated on this page was made

by Major R. S. Hunter Blair between the years 1914 and 1918, and has been lent by him to the Victoria and Albert Museum. "It is probably," says Mr. Brackett, "the best example in existence of a modern English dolls' house, and is worthy to be compared with historic specimens of the past. The scale of the furniture and fittings is more true than is usually found in the older examples."

NORTH SLESVIG REVERTS TO DENMARK: THE FIRST ZONE PLEBISCITE.

PHOTOGRAPHS BY A. FRANKL.



ARRIVING BY SEA TO VOTE FOR THE RETURN OF THEIR COUNTRY TO DENMARK: DANISH VOTERS LANDING AT APENRADE FOR THE FIRST PLEBISCITE.

influx of Germans. On the other hand, there are a large number of voters who will be influenced by the anarchical state of affairs in Germany and the more favourable economic situation of Denmark. The transport by ship and train of from 21,000 to 22,000 non-residential voters from Denmark commences on February 8 in time for the Plebiscite in the First Zone on February 10. Unfortunately, Germany's contingent of out-voters far outnumbers Denmark's, owing to the movable character of the German official and military population during the German régime. In spite of Germany's internal troubles, she has made the most minute arrangements for the transport of her out-voters." As stated below, the plebiscite in the First Zone resulted, in accordance with M. Hanssen's expectation, in an overwhelming Danish majority.

BEFORE the voting in the First Plebiscite Zone took place, the Danish Minister for Slesvig Affairs, M. H. P. Hanssen, was reported to have said in an interview on the subject: "It is a foregone conclusion that the First Plebiscite Zone in Slesvig will vote overwhelmingly in favour of reunion with Denmark. As regards the Second Zone, the proportion is uncertain. At the last Reichstag elections, 5 per cent. voted for the Danish candidate. The pressure of circumstances under the German régime must be allowed for, and also the fact that thousands of Danish Socialists then voted for the German Socialist candidates. There was a Danish majority at the elections in Flensburg in 1867, but many Danes have since emigrated, and the growth of the population of the city from 20,000 to 70,000 is largely due to the

(Continued in Box 2)



RIVAL FACTIONS MEET AT APENRADE HARBOUR: A DANISH AND A GERMAN DEMONSTRATION, WITH THEIR RESPECTIVE FLAGS, IN CONTACT WITH EACH OTHER.



WITH A SOLDIER ON GUARD, WITH FIXED BAYONET, AND A BAND PLAYING: THE ARRIVAL OF A PARTY OF VOTERS AT A NORTH SLESVIG STATION.



BRITISH SOLDIERS AND DANISH POLICE IN JOINT CONTROL OF THE PROCEEDINGS (IN THE BACKGROUND) GERMAN CHILDREN AWAITING GERMAN VOTERS.

It was provided in the Peace Treaty that plebiscites of the population of Slesvig should be taken, to determine whether that province, which was annexed by Prussia in 1864, should remain under German rule, or revert to Denmark. The voting in the First Plebiscite Zone took place on February 10, and resulted in an overwhelming majority in favour of a return to the old Danish allegiance. Some districts showed a Danish vote

of 100 per cent. Thus North Slesvig is restored to Denmark by the self-determination of its inhabitants, who have preserved their national loyalty through more than half a century of Prussian domination. The result of the plebiscite was received with great joy in Copenhagen and throughout the country, and was the occasion of enthusiastic demonstrations. The voting in the Second Plebiscite Zone was arranged to take place on March 7.

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LADIES' NEWS.

Lent is here, and there is an idea abroad that it is to be observed rather more strictly than usual. If it is based on the fact that there was an outbreak of balls on Shrove Tuesday night, arguing an abstention from dancing later, it must have been forgotten that the greater part of the said balls were on the morning of Ash Wednesday! Apparently the Lenten season will still have its dances, and many of them. They will be of the impromptu kind that have proved most enjoyable, so that when you meet a friend anywhere you may be bidden to come along that evening to just a little "hop." Or it may be that a more formal invitation to dinner will lead to a real good dance later. This does not mean that Lent will not be observed in the spirit. Many people, and especially, I find, young people, are going without things they like well during the penitential season, and in other ways are showing remembrance of it.

The Shrove Tuesday weddings were very interesting; that of the young Marquess of Blandford to the Hon. Mary Cadogan was chief of them all. The King and Queen attended it, and in so doing conferred a signal honour, for, save the weddings of relatives, they have attended none since the King's Accession. It was quite a large royal party, for Princess Mary was with her parents, and Queen Alexandra, the Princess Royal, Princess Victoria and Princess Maud attended as the guests of the bride's mother. The Duke of Marlborough and the Marquess of Blandford received the King and Queen, and Lord Stanley and Lord Hillingdon, sons-in-law of the Hon. Lady Meux, received Queen Alexandra and her daughters and granddaughter. The presents were on view at Viscount Farnham's house in Grosvenor Square, lent by him for the reception, and one of the most spacious mansions in London. There was a wonderful collection of gifts, proving the great popularity of the young couple. The Duke of Marlborough's moleskin coat, with magnificent silver-fox trimmings, and his set of silver foxes were gifts to delight any girl, and his Grace did not stop there. The Duchess furnished a house for the young people and gave the bride some superb jewellery as well. The Marquess and Marchioness have a delightful home near Windsor to come back to. Lord Blandford, seeing the shortage of houses,



A
RESTAURANT
FROCK.

Jade-green taffetas makes the foundation of this dress; over it are superimposed tulle flounces of the same shade. The hat is also green with a band of brocade and a black paradise plume.

secured it some time ago. As his regiment is frequently at Windsor, and as he and his wife prefer the country to town, it is a wise choice. To say that the bride looked lovely is not a mere conventional phrase about the new Lady Blandford on her wedding-day, for she "really and truly"—as the kiddies say—did!

The Abbey wedding, that of Mr. Michael Peto and Miss Carnegie, was quite beautiful, full of dignity and quiet charm. The place looked its finest with sunshine penetrating into its great grey spaces. The bride and bridegroom were young and handsome, and the bridal procession, all in white and gold, was composed of lovely children and beautiful girls. Canon Carnegie will have to be something more than human if he manages not to feel proud of his five daughters. It would have puzzled Paris to which of them to award the apple. Mrs. Carnegie, who as Mrs. Joseph Chamberlain made a place for herself for ever in British affection, looked very well in a gown of beautifully draped copper-beach coloured satin, with a satin hat to match, having one ostrich plume in it paler in tone. An ermine wrap bordered with Russian sable completed the costume. The Lord Chancellor carried his wee son out of the Abbey, and was accompanied by his tall and charming wife, who was congratulated on being out for the first time since her illness. A very large number of well-known people were present. There was no subsequent reception, but quite a big and really enjoyable luncheon party.

There is much talk about the Ideal Home in these days, when houses to make into homes are so hard to come by. Some people are too hard to please about a home, but the majority are too easy; they quite forget the influence of environment, and surround themselves with meretricious and unsatisfactory things. Now, a real home, one to be loved when in it and longed for when out of it, must be harmonious. A few, a very few people, have the gift for making it so; still fewer have the skill to arrange even beautiful things harmoniously. Quite the safest thing is to model on the homes of the best periods in this home-making country of ours. Harrods have produced a delightful book, delightfully illustrated in colour and in black-and-white, called "Interiors." There it shows in variety, one more attractive than another, all reproductions of the most celebrated room designers and decorators of the best times for furniture and decoration. It must have taken talent, experience, artistry and skill to get together this large and handsome brochure. It is at the disposal of those who really desire to make practical use of it, and

[Continued overleaf.]

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its value to the home-maker who does thus use it is incalculable.

From the dresses at the Lenten weddings it would seem that brown is to be in great favour. The Duchess of Portland was in red-brown velvet, and the Duchess of



A DAUGHTER OF LORD CLAUD HAMILTON
MRS. HUGH FLOWER

Mrs. Hugh Flower is a grand-daughter of the first Duke of Abercorn. She married Mr. Hugh Duncombe Flower in 1909, and has two sons.—[Camera-Portrait by E. O. Hoppe]

Roxburghe wore golden-brown velvet. There were no pannier dresses to be seen, save those worn by bridesmaids. Furs were for the most part laid aside in the churches: the Queen and Princess Mary took off their ermine wraps. Lady Sarah Wilson removed her long and lovely coat of chinchilla, which set commercially-minded people wondering if it would touch the £2000 figure or hover between £1500 and £1750. Lady Sarah wore it as if it were somewhere about £30—that is why costly clothes look their best on unconscious wearers. To me it seemed that very little jewellery was worn at these weddings. Possibly women

begin to take notice of the wave of dishonesty flowing over us, and to refrain from this kind of display which is good sense. Pearls are unostentatious gems; also the light-fingered folk have risked much in their time to secure ropes of them which proved to be just inimitable imitations. If I may be pardoned an Irishism, Mrs. Asquith was in blue and gold, and was accompanied by Princess Antoine Bibesco in a long ermine wrap and a black-and-dull-gold dress and cap. Lady Bonham-Carter, back from charming the "Paisley bodies," was in grey with touches of terracotta. Lady Londesborough, not looking in the least like a grandmother, or, if so, a very up-to-date one, wore a sapphire blue satin dress with a deep trimming of Oriental embroidery in rich, deep colours, a piece of which appeared also in her large blue hat. The Duchess of Marlborough was another wearer of a long full cloak. Hers was of Air-Force-blue velvet with a very deep border and a broad collar of nutria fur. Her satin hat was of similar colour and was trimmed with similar fur. She carried a lovely bouquet of mauve cattleya orchids sent from the famous houses at Blenheim.

Burberrys' 1920 sale ends with this month, when the celebrated firm are ready with new clothes for the Spring, which is with us early. Their materials are more stylish than ever, and the new coats for motoring are covetable exceedingly, especially now that we are all looking forward to runs in the country. There are coats and skirts which make one long for the links and the lanes and the joys of the country now that Spring is here. These are beautifully cut, semi-fitting, smart and eminently comfortable suits such as our bodies, if not our souls, love. Skirts and blouses there are, too, of the very latest, to look nice and fresh and up to date when coats are laid aside for a round of the links. Also one breaks the last Commandment over the new jumpers and coats, or, if one leaves the Mosaic law intact, the Government admonition to spend not at all goes by the board. Burberry is too "temptatious" when Spring outings are in view.

There is to be a great stage tribute to our blinded heroes at the Palace Theatre on the 19th proximo. Sir J. Forbes-Robertson is Chairman of the Committee of the great Matinée which will be given, and will take part in the programme with almost every star actor and actress in London. Miss Anita Bryce Wilson, the newly-found child poet, will recite some of her remarkable verses. There is a brisk demand for tickets, which are from 5s. to three guineas, and can be obtained at the Palace Theatre.

The proceeds go to Sir Arthur Pearson's After-Care of the Blind Fund, and the Matinée Secretary is to be found at 224, Great Portland Street. A. E. J.

"The Royal Blue Book" makes a specially welcome appearance this year, as Society is really now "getting back into its stride" after the war, and it is an essential thing to know where everyone has moved to—or if he or she has just returned to the homes they were in before. "The Royal Blue Book" will tell one everything one wants to know, for no street, square, or block of flats in London's residential quarter is unmentioned; and there is a handy



SISTER-IN-LAW OF EARL MIDLETON: THE HON.
MRS. ARTHUR BRODRICK

Before her marriage to the Hon. Arthur Grenville Brodrick, brother of Earl Middleton, Mrs. Arthur Brodrick was Miss Lesley Venetia Clough-Taylor. She has one daughter, born in 1914.

Camera-Portrait by Hugh Cecil.

map at the beginning of the work, so that the exact position of any street can be located. This ideal social companion is published by Kelly's Directories, Ltd.

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CONCERNING NATURE RESERVATIONS.

THE world is growing smaller and smaller with a rapidity which makes the lover of the wild places of the earth shudder. Hardly a day passes but what we hear of some earthly Paradise being proclaimed as "ripe for development," and forthwith a company is floated for its exploitation. Doubtless in many cases this is justified and necessary. But too often it is pursued with a haste which is out of all proportion to the possible rate of settlement. The work of "development" is carried on with an insane savagery which is sickening, and the mischief done is irreparable. New Zealand affords a good illustration of this. For here vast areas of valuable hard-wood trees have been hewn down and burnt where they lay, to clear the ground for possible settlers. A wilderness has been created and valuable timber destroyed, yet nothing has been achieved. The clearances still await cultivation.

A precisely similar state of affairs has just taken place in Oregon. The late Colonel Theodore Roosevelt, one of the greatest of American naturalists and sportsmen, spent not a little of his fiery energy on the creation of Nature Reserves, for he was a far-seeing man, and realised their immense importance as a factor for the enlightenment of his countrymen, and for the conservation of the native fauna and flora, not only for its own sake, but also for the sake of its economic and educational value. To this end he proclaimed Lake Klamath, situated between Mount Scott and Mount Shasta, on the borderland between Oregon and California, a reservation for wild birds. And carefully protected they were, both by State and Federal law. Klamath Lake is a wide, shallow, alkaline lake, ten or twelve miles long. For miles and miles around its borders is set a vast marsh, the haunt of myriads of ducks, geese, wading birds, pelicans, and cormorants. A great number of cattle was also raised here.

On an evil day land operators and wild-cat schemers spied out this land, and advocated the cutting-off of the water-supply of the lake, to convert, they said, this "marshy waste" into a great farming area. So a dyke was built and the lake was drained. As a consequence, the floor of the lake at the present moment is a desert encrusted with alkali. The meadows owned



THE PRINCE OF WALES'S SUCCESS AT THE HACKNEY HORSE SHOW: HIS STALLION, FINDON GREY SHALES, WINNER OF THE ROYAL CHALLENGE CUP.

The Prince of Wales's stallion, Findon Grey Shales, won the Royal Challenge Cup for the best stallion suitable for breeding Army horses.—[Photograph by British Illustrations, Ltd.]



A MEMORY OF THE AIR-RAIDS: THE GRAVE AT POTTERS BAR OF THE CREW OF THE ZEPPELIN BROUGHT DOWN AT CUFFLEY, IN SEPTEMBER 1916, BY THE LATE CAPT. LEEFE ROBINSON, V.C.

Near the grave of the crew is that of the commander of the Zeppelin.

by the stockmen have also become desert land. The great marsh last spring and the peat two or three feet below the surface was set on fire, and is now a gigantic Hades, flaming in some places, smouldering in others. Needless to say, the birds, like the cattle, have disappeared. Now comes the shameful part of the story. The Director of the Reclamation Service reports that a recent investigation of the "cleared" land has failed to disclose any evidence of its value for agricultural purposes.

"Here," comments a writer in an American journal devoted to Economic Zoology, "is the most useless piece of destruction of one of our greatest out-of-door resources, and nothing gained." But he points out that this folly can even now be remedied, if the dykes are opened and the lake restored. The American Game Protective Association similarly protests against the drainage of Big Rice Lake, in Minnesota, under the pretext of providing land for the farmer. These schemes, and the disaster which followed their fruition, reminds us of our treatment of Loch Doon!

There be many, unfortunately for themselves—and those of us who are differently constituted—who find no joy in living save amid the throb and turmoil of great cities. For them the screech of a "Klaxon horn" is music enough. They have no use for the open country unless it be traversed by good roads affording means for

annihilating Time—and their fellow men. Some of these tell us that they are "business men," and arrogantly proclaim that they cannot, and will not, tolerate "sentimentalists." But that way madness lies. If we cover the earth with bricks and mortar and the latest devices of "Civilisation," we shall inevitably bury our only chance of acquiring that knowledge of the earth, and of ourselves in relation thereto, which is essential even to the "progress" which they so fervently desire to force down our throats at such a hideous cost. The wild creatures of the earth are not ours to exploit as we will. We are the trustees for generations yet unborn, and we have no right to waste their substance to satisfy our own selfish ends. But, apart from this, only in the pursuit of knowledge for its own sake can we hope to advance our material and spiritual well-being. And if only for this reason we ought to guard very jealously the springs of knowledge, many of which must now be sheltered from thoughtless irresponsibles by means of reservations. W. P. PYCRAFT.

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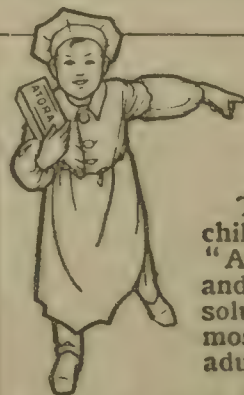
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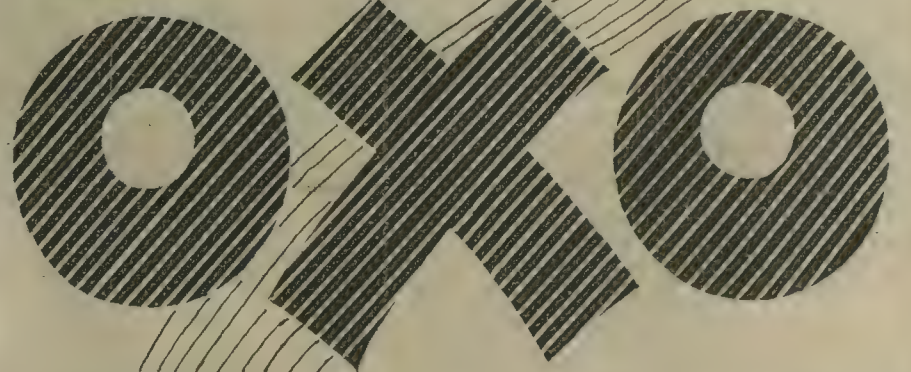
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"SOUNDS OF THE SEA"—(Continued from page 324).

of rest. A little sand scattered over the vibrating plate is tossed into the places of rest and forms a pattern which shows to the eye the mode of vibration. A little very light powder, lycopodium, when scattered over the plate is



THE SHAH IN ITALY: HIS MAJESTY, ACCOMPANIED BY THE KING OF ITALY, INSPECTING A GUARD OF HONOUR.—[Photograph by Pisculli.]

caught by the air whirls and tends to gather in heaps at the places of most motion. (The artist has sketched three figures which I have made for him in this way—Fig. 7, a, b, c.)

In the action of a reed, such as the primitive clarinet illustrated in the text (Fig. 8), a thin slip of wood half closes an opening through which the air must go. The reed is carried with the air, stops the hole altogether, and then recoils, to be carried forward again. The pitch is governed by the length of the pipe to which it is attached. In some "reeds" the reed itself takes charge and determines the pitch; but the quality can be altered by attaching various conical pipes (Fig. 9), each of which encourages its own special overtones, and so we get notes of different quality. Most marvellous of all is the human voice, of which this last experiment is a crude illustration.

In our throat is the reed, and the different settings of lips, teeth, and tongue correspond to the differently shaped pipes. All our speech, with its infinite variety, depends on differences in "quality"; and we find it hard to say which we should wonder at more—the voice that can express so much, or the ear and brain that can appreciate and understand.

There is one more sound of the sea which I should like to illustrate. The fog-horn is wanted to distribute its warning sounds over a wide expanse of water; but it is waste to send the sound up and down. Lord Rayleigh showed how economy could be effected by giving an elliptical form to the opening of the horn, and by placing the long axis vertical. As in our first experiment with the ripple tank, the sound waves issuing from a narrow opening spread widely right and left, and therefore are distributed in a wide sheet over the sea; but as regards spreading up and down they may be considered to be issuing from a wider mouth, and therefore do not spread so much. We illustrate these effects by the bird-call and sensitive flame (Fig. 10).

THE ARCH OF CONSTANTINE: A "FAKED" PHOTOGRAPH.

WE learn with the deepest regret that we were unwittingly misled into accepting as genuine a "faked" photograph showing the Arch of Constantine apparently plastered with placards of the Italian War Loan. This photograph appeared in our issue of Feb. 7, with a comment that "it seems hardly credible that the Italian Government can be responsible for the extra-

ordinary act of vandalism." As, however, the photograph reached us through a well-known London agency, which had obtained it from a contributor in Rome, there seemed, on the face of it, no ground to doubt its authenticity. The photograph bore the definite title: "The Arch of Constantine covered with posters of the Sixth National Loan." We submitted it to an Italian firm to verify the identity of the arch, and they did not suggest that it was faked. We have since learned that a similarly "faked" photograph of the Arch of Titus, likewise placarded, appeared simultaneously in the German paper *Vossische Zeitung*. Needless to say, we knew nothing of the *Vossische Zeitung's* photograph, and should be the last to wish to cast any slur on Italy. Anyone who has studied our pages during and since the war will know that we have always expressed the warmest feelings of friendship for Italy and the highest admiration for the heroism of the victorious Italian Army. We regret all



A BIG CARGO: UNLOADING A HANDLEY-PAGE ON ITS ARRIVAL AT CRICKLEWOOD FROM PARIS.

The Cricklewood Aerodrome is now the official port of departure and arrival for the Handley-Page Air Services. The pilot of the craft shown—Lieut. L. W. Beal—is seen on the extreme right of the photograph.

the more on that account that we were led into publishing a photograph which has given offence to our Italian friends, and we trust that they will accept this explanation and the renewed assurance of our goodwill.

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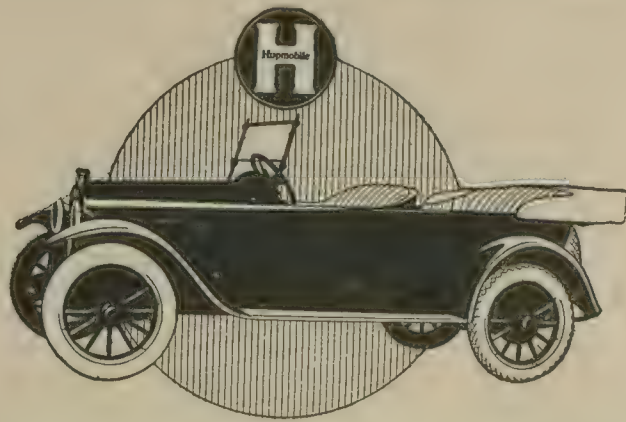
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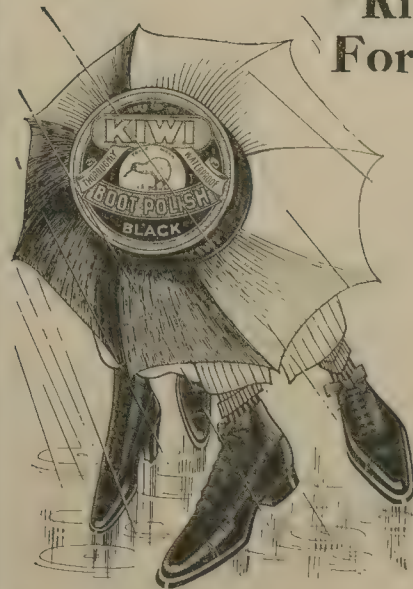
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"SUNSHINE OF THE WORLD." AT THE EMPIRE.

IN the opening passages of "Sunshine of the World" it looks as if we were going to obtain, with the help of some of M. Cuvillier's most characteristic music, an entertainment marking something like a departure from the ordinary traditions of the Empire. For here we have, developed by Miss Gladys Unger and her fellow-librettist, K. K. Ardaschir, a story of the Persian entry into Delhi,



THE FIRST OF THEIR KIND TO BE SEEN IN THIS COUNTRY: GOLDEN-CRESTED PENGUINS FROM SOUTH GEORGIA, AT THE ZOOLOGICAL GARDENS. [Photograph by W. S. Perridge, F.Z.S.]

the wrestling of the Koh-i-Noor from the Great Moghul, and the adventures of the Princess Shireen, pledged to revenge herself on the conqueror, and accompanied by her Englishman protector, which, besides being picturesque in its setting, makes an extremely dramatic appeal. There is, to be sure, a *ballet divertissement* interpolated in the Moghul's dream scene; but, nevertheless, there is real drama in this first act, rendered all the more effective by the powerful acting of Mr. Randle Ayrton in the rôle of the vanquished Emperor. Soon, however, revue, with its incoherence and its mixture of heterogeneous elements, takes possession of the stage, and the story goes by the board in favour of semi-operatic numbers, musical-comedy turns, harem dances, and the appurtenances of spectacle, to be picked up again at intervals, but never able to regain its original impetus. Still, since half a loaf is better than no bread, the fact ought to be recorded that almost without the aid of humour it has been found possible for a while at the Empire to equip a musical play with an arresting plot and to please with the combination. The vocal opportunities in the piece mainly fall to Mr. Martin Iredale and Miss Clara Simons; the former has an easy, confident style, and produces a highly favourable impression.

To Mr. George Bishop as a Persian poet is entrusted the number which seems most assured of popularity, "Camel Bells." It is rather cheaper stuff than M. Cuvillier's best—the best, say, in "The Lilac Domino" score—but the composer puts in some admirable work at the Empire in his more strictly illustrative music. This can be unreservedly praised, as also, of course, the play's Eastern costumes.

"WILD GEESSE." AT THE COMEDY.

The librettist of the newest musical comedy, "Wild Geese," owes something to both his Gilbert and his Barrie; his plot recalls alike "Princess Ida" and "The Admirable Crichton," for he asks us to imagine members of a ladies' club striking against the tyranny of husbands and men generally, founding a colony on an island with but one man as servant, yet hailing a rescuing ship gladly and putting on evening frocks for the benefit of the rescuers. It cannot be said that Mr. Ronald Jeans emulates the wit or fancy of either a Gilbert or a Barrie, and "Wild Geese" needs



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all the help it gets from the music of M. Cuvillier and the hard work of Miss Phyllis Monkman, Mr. Jack Buchanan, and Miss Nellie Briercliffe. Miss Monkman's dancing is as exquisite as ever, and both she and Mr. Buchanan are unsparing of effort in other ways. Miss Briercliffe's vocalisation stands out the more since the cast of this musical play is markedly defective in vocalists. Mr. Gilbert Childs's study of a zany of a servant deserves special mention, and there are plenty of ravishing frocks worn in this piece, which has at all events the merit of a straightforward story straightforwardly told.

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Registered It removes the lines, makes the lids full and firm, makes the eyes bright and clear, and will even improve the sight. This oil is as nearly as possible like the natural oil of the skin; it produces the muscles and feeds the tissues, and will Trade Mark of itself remove lines, strengthen, and give back life to the skin. (35/6, 21/6, 12/6).

"Dear Madam,—I really do not know how to thank you; the Oil has made such a difference to my appearance that I look ten years younger."

It is wonderful what improvement to the skin can be accomplished by a little Home Treatment done regularly. Mrs. Adair's Home Box contains the most necessary preparations, with sketches showing how to do the Treatment. Usual price 21/6. Special price on mentioning this paper, 20/- post free.

Consultations free. Send for free booklet.
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BEAUTY

Nothing will give to the hair such a radiant healthy appearance as the use of

ROWLAND'S MACASSAR OIL

Rubbed gently into the hair roots and brushed through the hair it affords a complete hair tonic food, preventing thinning and loss of hair. Best for mother, father, and the children. Behind every bottle of ROWLAND'S MACASSAR OIL stands nearly a century and a half of popular approval. Sold in a golden colour for Fair or Grey Hair, bottles 3/6, 7/-, 10/6, of Stores, Chemists, Hair-dressers and ROWLAND'S, 67 Hatton Garden, LONDON.

ROWLAND'S
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MATERNITY

(Finlay's Patents, adjustable any size) From

SKIRTS 6gs. to 21s.
GOWNS 14gs. to 6gs.
CORSETS 5gs. to 2gs.

The Lady says:

"I have seen delightful frocks at Finlay's for Maternity Wear ... very cleverly planned, being adjustable to any size."

Free Wonderful Baby Book.

Catalogues and Patterns of Latest Materials Free, Baby-wear, Lingerie, Cots, Etc.

H. FINLAY,
47, Duke Street, London, W.1.
(off Oxford Street).

The Maternity House of Gt. Britain



Guard your Complexion from Winter's Cold.

Uncertain wintry weather produces in most ladies a sense of anxiety for their complexions, but with La-rola's assistance the skin and complexion can be made secure from all the ill-effects of the keenest winter.

BEETHAM'S
La-rola

(With Glycerine)

by nourishing and stimulating the delicate skin tissues, enhances the resisting powers of the skin and enables it to withstand exposure to frost, cold winds, etc. It effectually prevents and removes all roughness, redness and chaps, and gives the natural glow of health to the complexion. The delicate fragrance of La-rola is most refreshing at all times. Keep a bottle in your bathroom, and apply it night and morning, then you need never worry about your complexion.

In bottles, from all Chemists and Stores, 1/3, 2/3, & 3/-

M. BEETHAM & SON,
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PALE COMPLEXIONS

may be greatly improved by just a touch of "LA-ROLA ROSE BLOOM," which gives a perfectly natural tint to the cheeks. No one can tell it is artificial. It gives THE BEAUTY SPOT! Boxes 1/-



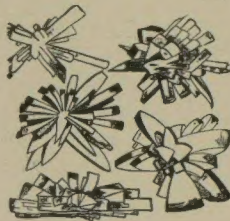
THE SERIOUS DANGERS OF KIDNEY AND LIVER NEGLECT.

Rheumatism, Gout, Gall Stones, Hardened Arteries, High Blood Pressure, and even Cirrhosis, Dropsy, Bright's Disease, Diabetes, etc., may be the direct result of neglecting the kidneys and liver so impurities can accumulate in the system. Medical man says not one person in a hundred knows how to flush the kidneys thoroughly, nor how to stimulate the liver properly. Not one in five hundred over the age of forty does either of these often enough.

Tells how anyone can easily take, in the privacy of his own home, a course of medicinal water treatment which is equivalent to that received by visitors at world-famous health resorts. No longer any need of journeying to expensive hot springs. Any chemist can supply, at little cost, the only ingredients necessary.

Numerous pain and disease-causing impurities which clog the organs of filtration are always *acidulous*; therefore the drinking of strongly *alkaline* hot water offers the best and only logical means of neutralising and washing them out. Remember that the waters of such world-famous medicinal springs as those at Châtel Guyon, Contrexéville, Evian, Vittel, Ems, Carlsbad, Marienbad, and others equally celebrated, are all strongly *alkaline*. This is the secret of their wonderful effects. When we consider thousands who have visited these famous health resorts and the marvellous results there produced, nothing further need be said about the merits of alkaline water as compared with powerful drugs, noxious medicines, nerve-depressing salts and bromides, or any other forms of treatment.

The symptoms produced by neglecting a torpid, sluggish liver and the impure blood always resulting therefrom are unmistakable. Biliousness, headache, offensive breath, skin diseases, bad complexion, low vitality, defective vision, stomach trouble, nervousness and catarrh are a few of them. As for neglecting to thoroughly flush out the kidneys occasionally, this not only results sooner or later in backache, rheumatism, uric acid disorders, etc., but if continued long enough it is even capable of bringing on such dreaded maladies as Dropsy, Bright's Disease, or Diabetes. Other serious results may be kidney or bladder stones, which are formed by the crystallisation of uric acid, urates or other salts. This is due to the lack of sufficient alkaline elements to keep the uric acid dissolved, which, therefore, is not expelled. Gall stones may also be produced by inflammation of the gall bladder changing the bile so that certain component elements become insoluble. These stones by blocking up the bile duct or grinding back and forth cause acute agony. High blood pressure and calcification or hardening of the arteries, liver and other organs are also due to similar causes. Aged persons are by no means the only ones subject to these afflictions. When the arteries lose their elasticity and are therefore unable to equalise the blood pressure by



Typical specimen of uric acid crystals, highly magnified. No wonder they hurt.

expanding or contracting, the strain on the heart becomes serious or even dangerous. Any sudden exertion, shock, or excitement can prove fatal in advanced cases. With such developments as Hardened Arteries, Dropsy, Bright's Disease, Diabetes, Stones, Gravel, etc., it is not my purpose to deal here. If their existence is even suspected, they should receive the personal attention of a good physician or surgeon without delay, for delay may be dangerous, and any attempt at self-treatment is to be strongly deprecated. It is only with their prevention that we have to deal here, and obviously the most logical way to prevent them is by regularly and thoroughly cleansing the entire system of the constantly developing impurities and poisons. Call these microbes, bacilli, toxins, bacteria, stomach acids, uric acid or by any other names you like, but they are all simply poisons or body impurities which form the primary cause of organic and other diseases. It is only when you neglect the organs of filtration and excretion, however, that the impurities remain in the body long enough to do any harm.

It is a simple matter for anyone to prepare at home, strongly alkaline medicinal water which contains essential mineral constituent ingredients similar to those found in the waters of various celebrated mineral springs. Any chemist can supply, at little cost, these same medicinal elements (as accurately ascertained by chemical analysis) already compounded in just the right proportions and in the form of an immediately soluble powder. The compound is well known to chemists, and medical men prescribe it by the registered name of Alkalia Saltrates (powder form). Merely dissolve a level teaspoonful in a tumbler of hot water, and drink once or twice daily. This pleasant-tasting natural medicinal alkaline drink will promptly dissolve, neutralise and wash out the painful and disease-causing poisons or harmful body acids. It is astonishing to note how quickly aches or pains then disappear and how soon a state of absolutely perfect physical health and fitness may be attained.

A Laxative and Refreshing Fruit Lozenge
FOR
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Gastric and Intestinal Troubles
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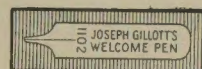
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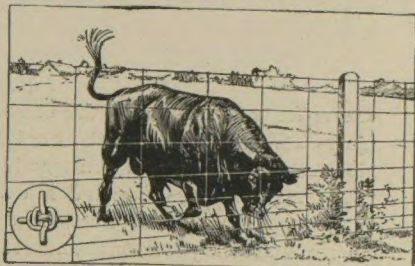
Joseph Gillott & Sons, 6, Thavies Inn, Holborn, London, E.C. 1.



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to damage crops from fields fenced with this rigid, rapidly-fixed, reliable wire fence.

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Each wire tested to 2,240 lbs. strain. No. 9 gauge throughout, heavily galvanised to prevent rust. Patent knot can't slip or tear cattle. Once erected requires no attention. Saves its cost over and over again. Two men can erect a mile per day, when posts are set, as easily on hilly as level land. SEND FOR LIST TO-DAY and SEE WHAT USERS SAY and how you can cut your costs.

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Let Cuticura be your beauty doctor, one that really does something to purify and beautify your hair and skin. Bathe with Cuticura Soap and hot water

to cleanse the pores. If signs of redness, roughness or eruptions are present, or dandruff on scalp, touch gently with Cuticura Ointment before bathing or shampooing. For every purpose of the toilet, bath and nursery Cuticura Soap and Ointment are ideal. Absolutely nothing better. Soap 1s., Ointment 1s. 3d. and 2s. 6d. Sold throughout the Empire. For thirty-two page Skin Booklet address **F. Newbery & Sons, Ltd., 27, Charterhouse Sq., London.** Also for mail orders with price. **Cuticura Soap shaves without mug**

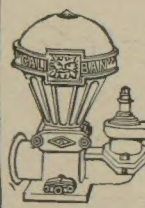
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Costs nothing to work it.

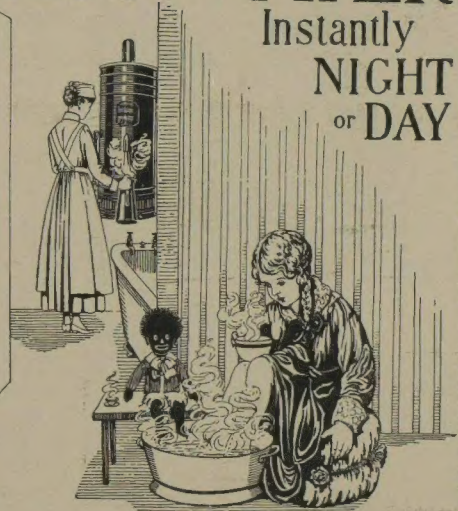
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Instantly
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write evenly and smoothly over the roughest paper, and are especially recommended for rapid work.

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A real labour-saving proposition is always worthy of investigation. If money can be saved thereby as well as work, it becomes a necessity. Garden tools which will not rust, but always remain brightly polished, are infinitely easier to work with. They also last indefinitely. If you see that your garden tools are made of

FIRTH'S STAINLESS STEEL

they will do all this. Besides, this steel is stronger than that from which tools are usually made, so breakages and actual wear are reduced to a minimum.

THOS. FIRTH & SONS LTD.
SHEFFIELD.

THE CHRONICLE OF THE CAR.

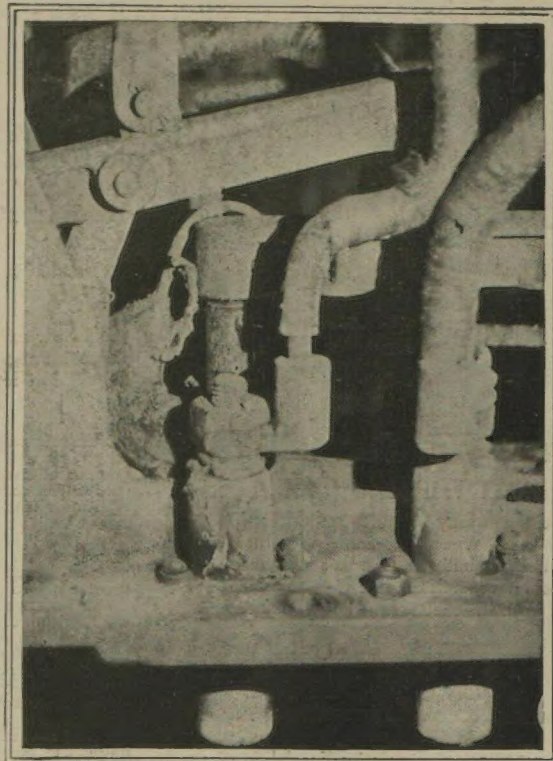
Simplicity and Ease of Maintenance. When the motorist pleads for the utmost simplicity in car construction and in the same breath demands certain refinements that have come to be looked upon as essentials in a high-grade car, it might be assumed, off-hand, that he is seeking the unattainable. But simplicity does not necessarily imply crudeness of design or lack of refinement. What is nearly always implied is "ease of maintenance," and this desirable quality may actually be lacking from cars in which the main purpose of their designers has been to reduce the total number of parts to a minimum. Simplicity in construction, carried to an extreme, may, in fact, involve a complicated system of maintenance. While, therefore, the car designer, primarily for manufacturing reasons and to reduce first cost,

Obviously that ideal is unattainable. Fuel supplies must be replenished; the engine and other parts must periodically be provided with lubricant, and while pneumatic tyres continue in use, they must have occasional attention. Such matters are "constants"—they are involved in the maintenance of all cars. It is in regard to the subsidiary parts of a chassis that scope for improvement exists, and it may take one of two forms. First, and preferably, the elimination of the need for periodical attention on the part of the driver, and secondly, the reduction of the time and trouble involved. Where attention is necessary it, consists of either lubrication or adjustment, and the aim of the designer should be to reduce the number of parts requiring individual attention and to render as accessible and simple as possible the means provided at points where such attention is essential.

To indicate how these aims can have good result, one must consider a specific car of post-war design, and I cannot, I think, do better than take as a case in point the Armstrong Siddeley. In this car ease of maintenance is manifest in respect of both lubrication and means of adjustment, though, in regard to the latter, the first aim has been to render adjustment needful only after lengthy use. In the case of the former, the designer's object has been attained by increasing the area of all surfaces and parts normally subject to wear. The first result of this has been that the great number of grease and oil-cups so frequently in evidence has been reduced to three only. This marked reduction of parts has been assisted by the use, where advisable, of an oil-less type of bearing, one that requires no attention throughout the whole of its lengthy life. It is used for steering joints, brake joints, spring shackle-pins, and other similar details, each case

eliminating and removing the need for from one to ten grease or oil-cups.

But design has also assisted. The use of a ball-bearing type of universal joint, for instance, has removed all necessity for the lubrication of this part. The clutch spigot bearing—a detail which frequently suffers neglect, with the result that gear-changing is rendered difficult—

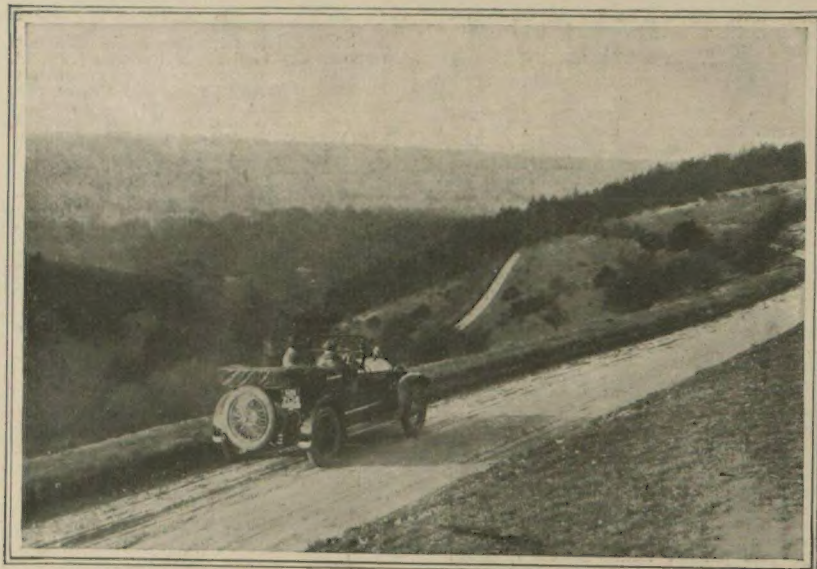


A RAT ELECTROCUTED AT THE DAIMLER WORKS:
A UNIQUE OCCURRENCE.

It is very rare that an electrical breakdown is traceable to such a cause as that shown in the above photograph, taken at the Daimler Company's Radford Works. One night the power suddenly failed, and a lengthy investigation of the electrical equipment resulted in the finding of the body of a badly burnt rat, which had apparently attempted to walk across the high-tension terminals of an oil-immersed switch, and had thereby started a short-circuiting current. This current had persisted and formed an arc, with disastrous results, as will be seen in the photograph, to the rat and also to the main switch.

has a chamber surrounding it that holds enough oil for three months' running. As regards adjustments, only two points beyond the magneto should require attention more frequently than once in twelve months: these are the valve tappet clearances and the brakes. The tappets are peculiarly accessible owing to their overhead position, and all that is needful to effect adjustment is merely to slack a locking bolt and move a square-headed screw which makes contact with the valve stem.

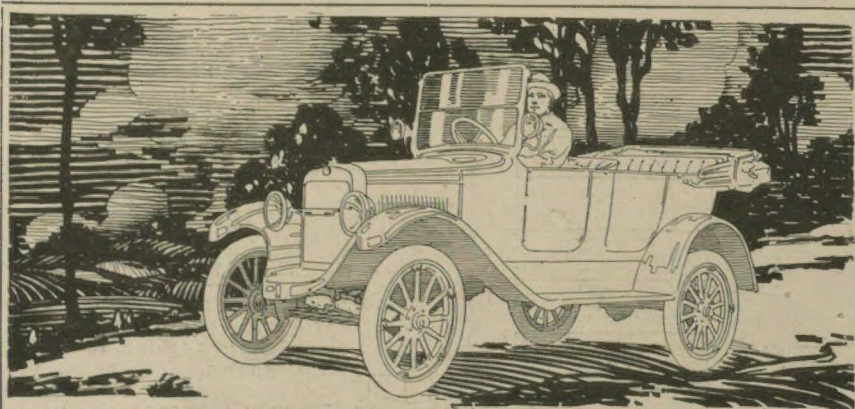
[Continued overleaf.]



MOTORING ON BOX HILL: A SIX-CYLINDER HAYNES CAR, WHOSE OCCUPANTS ARE ENJOYING A LOVELY VIEW OF SURREY SCENERY.

should always keep in mind the desirability of making one part serve where two or more have hitherto been required for the same purpose, there must be that intelligent compromise which lies at the root of success in almost everything.

The ideal car in the matter of simplicity would be one that required no attention whatever in maintenance.



RUNNING A CAR AT REDUCED COST

YOUR week-end "spin" in the car will cost you less, if you ride in the new Overland 4.

You will not only ride in complete comfort, but the Overland 4 will cover the miles at less expense for petrol and oil—with less wear and tear on the tyres—with less shock to the mechanism and, therefore, less outlay for running repairs.

Three-point Suspension Springs effect this economy. Attached at the end of a 130-inch springbase, they give Overland 4, with 100-inch wheelbase, the riding ease of a long heavy car with the fuel-saving qualities of the light car. They protect the car from road shocks and so lengthen its life. They make riding on bad roads as smooth as on paved streets.

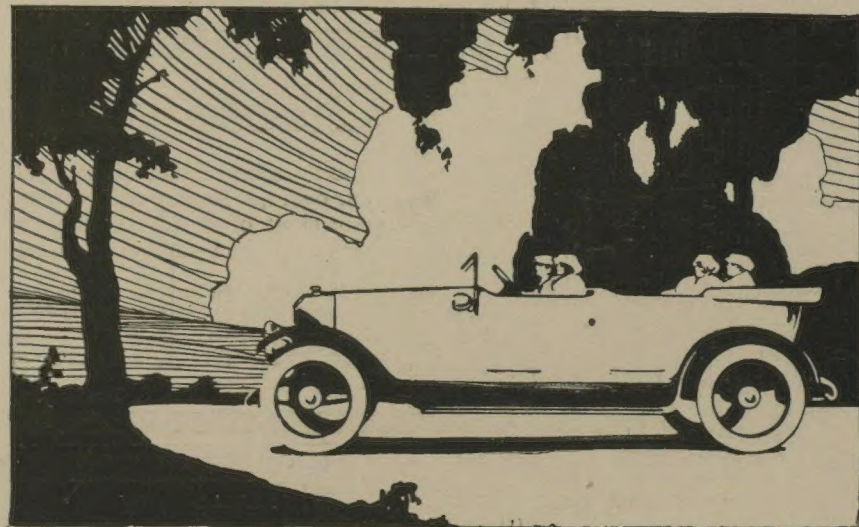
Overland 4 is remarkable for this combination of comfort with light weight. It is a car of proved merit. Tested over 250,000 miles of prairie, desert, mountain, country and town roads, it recorded unusually low operating and upkeep costs.

In appearance, design, materials and workmanship, Overland 4 is quality throughout. Its equipment is high grade and complete, from Auto-Lite Electric Starting and Lighting to Tillotson Carburetter.

See the Overland dealer in your town and find out for yourself the many advantages of Overland 4. Its price is reasonable, due to quantity production. It is a car you will be proud to own, and you will always be satisfied with its performance.

WILLYS-OVERLAND Ltd.

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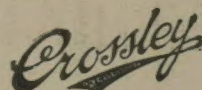
The Reputation of the Crossley Car.

THE Reputation of the Crossley Car is a solid one. It is built on the basis of performance.

Prior to the war, during the war and since, it has distinguished itself as a car which gives sound and lasting service and particularly as a car of absolute reliability.

Such a reputation inspires confidence.

Ask for Illustrated Booklet and name of nearest Agent for the



25/30 h.p. R.F.C. Model.

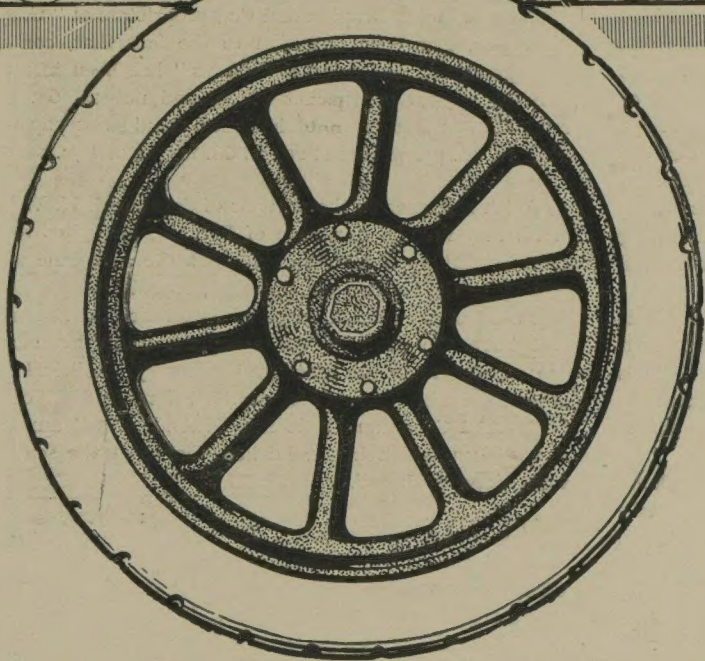
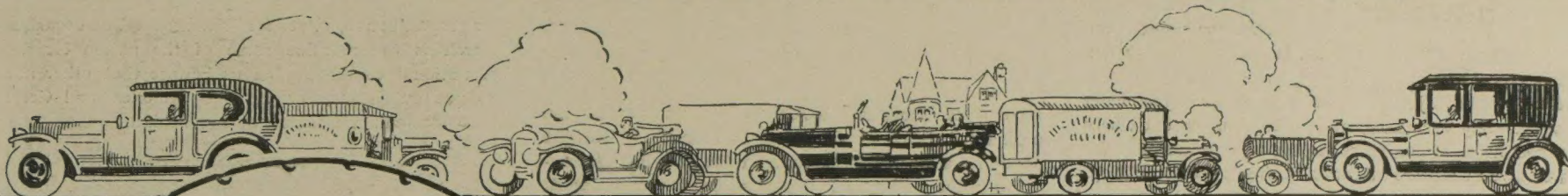
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Builders of Quality Cars, Manchester.

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the Quality Car.



The Strength and Shapeliness of The Sankey Wheel

The all-steel Sankey Wheel is particularly light and strong. When shaped and welded into one perfect whole, the Sankey Wheel possesses enormous strength, and is, in fact, practically unbreakable.

The one-piece construction of each side of the Sankey Wheel allows the shape to be carried out with a complete absence of sharp angles or corners. The outline of the tubular spokes, felloe and centre meet in graceful curves which, besides presenting a pleasing appearance, render the Sankey Wheel particularly easy to clean.

Thus Sankey Wheels combine beauty with strength and lightness, and, in addition to their outstanding practical merits, are an adornment to any modern automobile.

Specify Sankey Wheels

When you order your new car, make sure that Sankey Wheels are in the specification. That is vital—insist on them. If your car has Sankey Wheels you minimise the risk of accidents—you eliminate all possibility of wheel trouble.

JOSEPH SANKEY & SONS, LTD.,
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SANKEY
wheels



Daimler Service.

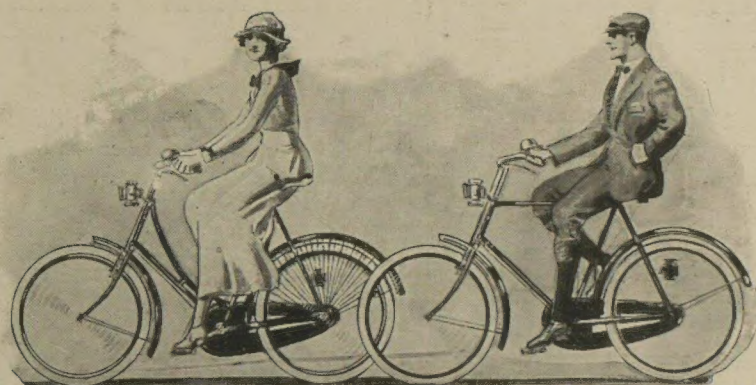
THE UTILITY of Daimler Service is appreciated by Daimler owners.

This service has been developed as a definite branch of our organisation and with a knowledge that, apart from bringing new orders, it is doing equally as much to consolidate the Company's goodwill as the design and quality of the cars themselves.

During recent years many Daimlers have been re-sold, and to enable their present owners to take advantage of Daimler Service, will these purchasers of cars numbered from 11,800 upwards, send the identification references to the Daimler Service Department.

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THE DAIMLER COMPANY, LTD.,
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You don't want a bicycle just like any other on the road.

The speed, reliability, comfort and easy running of the Raleigh make it the ideal "private carriage" for all classes.

Its many special features, such as liquid-brazed joints, all-steel construction, tubular fork-crown, etc., place it in a class of its own.

With Dunlop tyres and Sturmey-Archer 3 speed gear, it brings increased pleasure with every mile and every year.

Raleigh Cycle Co., Ltd.
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RALEIGH
THE ALL-STEEL BICYCLE



(Continued.)

Brake adjustments are provided at three points, and allow (1) the pull-rods to be varied in length, (2) the levers to be reset on their shafts, and (3) the shoes within the rear drums to be adjusted directly. The rod adjustments are immediately accessible, and, except under extremely severe conditions of use, these are the only means of brake adjustment that require attention during a year's running.

But while the need for regular attention on the part of the driver has been reduced to a minimum, this desirable result has not been attained by means which might involve trouble from apparent neglect, and, for instance, involve seizure of bearings by failing to function. Simplicity is evident in construction and design as well as in maintenance; obviously no ultimate advantage can accrue if, in removing the necessity for attention to one part, the designer adds another which itself requires periodical if not frequent attention to keep it in order.

The Price of Motor Fuel.

The Automobile Association is promoting a petition to the Prime Minister, pointing out that the constantly increasing cost of motor fuel is becoming a serious factor in transport charges and is affecting adversely the cost of living. The petition goes on to urge that the situation can only be relieved by the creation of independent sources of supply and distribution of home and Empire-produced motor fuel. To this end it is of vital importance that legislation be at once introduced to ensure the production of benzol and power alcohol in large quantities. Only by strong Government action, it is pointed out, in the direction indicated, is it possible for the country to be delivered from the present intolerable position.

The petition is being circulated for signature to all A.A. agents, local motoring associations, and individual members. I must say that when I regard the present price of home-produced fuel I am inclined to wonder just how much relief we are likely to obtain from an increase in production.

W. W.

We have received from Messrs. Rudall, Carte and Co., 23, Berners Street, the 1920 edition of "The Musical Directory," the 68th annual issue of that useful work. It contains classified lists (with addresses) of musical professors, including vocalists and instrumentalists, in London and the provinces, besides lists of musical traders and much other information. The price (in paper covers) is 6s. net.

THE THYROID GLAND AND THE CONTROL OF ANIMAL GROWTH.

(Continued from page 320.)

labours of American biologists, we know that the ordinary balance of the sexes in animals is brought about by a special mechanism in the so-called *chromosomes* of the nucleus. It is impossible to go into details in the space at our disposal, but it may be said that here again it was at first supposed that the mechanism was fixed beyond our control. Recent work however, has shown conclusively that other causes may over-ride or modify this arrangement, so that a preponderance of one or the other sex is arrived at. It will be one of the main aims of the series of experiments which it is hoped to carry out with larval frogs and Axolotls this spring at Oxford to see whether, by increasing or depressing the rate of vital processes, we can arrive at the control of sex-determination.

As to the problem of youth and age, that again is another and still more unrelated problem. It must suffice to say that, in the first place, many low animals when starved do not simply lose weight, but decrease in all dimensions, remaining healthy by living on themselves.

Even in the group to which we ourselves belong, the mammals, Hopkins and others have conclusively shown that certain substances, of known composition, and capable of being made in the laboratory, are necessary for growth. Young rabbits fed on a diet which does not contain these substances remain healthy, but do not grow.

I would like to say more, but space forbids. If I have made it clear that biology is at last becoming an exact science, I shall be satisfied. For once it is realised that the science of life can be exact, quantitative, it is immediately obvious that it becomes the most important single branch of study that exists or can be imagined, for upon its proper application depends the control of individual human lives and of the whole future of the race. The moral is obvious. Do not let us be content in the future with haphazard methods. Let us make up our minds, as a nation, to organise research. In the long struggle of animal evolution, the forms that have at last become supreme, culminating in man, have been those which set aside the largest portion of their substance, not for offence or for defence, not for feeding, nor even

for reproduction, but for *thinking*. To organise research is to set aside some of the nation for a part of national thinking. Let us beware that other nations do not outdistance us in this. America and Germany have started; we must not lag behind.

Messrs. Major Drapkin and Co., proprietors of "Greys" cigarettes, draw our attention to the fact that, contrary to expectation, the price of "Greys" has been increased only to 1s. 5d. per packet of 20, and not 1s. 6d. Our readers are asked to note that they should not pay more than 1s. 5d. per packet of 20, 3s. 6d. for 50, and 7s. per 100.

With reference to the portrait of Captain G. H. Wilkins (M.C. and Bar) in our issue of Feb. 14, he writes to say that he will not (as we stated) pilot the aeroplane which will fly to the South Pole, but that, as Chief of the Scientific Staff of the British Imperial Antarctic Expedition, he will have the work of the aeroplane under his charge. He also corrects the statement recently published elsewhere, that he "was Chief of the Scientific Staff of the Stefansson Canadian Arctic Expedition." As Commander of two Expedition boats, he had charge of the scientific work done on board.

"Whitaker's Almanack" for 1920 is the fifty-second annual issue of the famous handbook, which grows ever more indispensable with the years, and it marks the centenary of its founder's birth. There are many new features in the volume, due to the re-shaping of the world as a result of the war. The terms of the Peace Treaties and the Covenant of the League of Nations are given, and special articles, with maps, deal with newly formed countries, such as Yugo-Slavia and Czecho-Slovakia. Maps have also been added to the articles on Germany, Turkey, and Denmark; and "an attempt has been made to represent the existing state of affairs in the various Russian Republics, and to describe the potentialities of the Arctic *El Dorado* in Spitzbergen." Again, "the approaching death of 'Dora' is heralded by the renaissance of the Service Lists and of statistics which were in temporary banishment"; while a new section deals with "Questions of the Day," and articles are devoted to Sport, Workmen's Compensation, Meteorology, Women's Work, Aviation, Science, and Invention. The British Empire Industries section is once more included.



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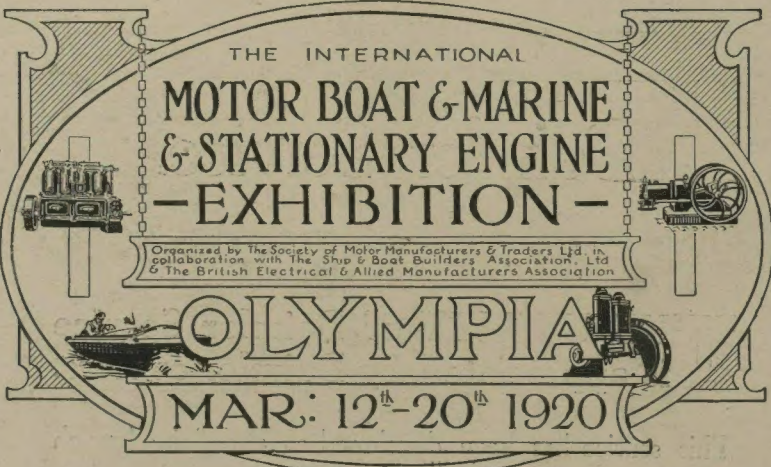


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